



# **NJ PATHWAYS**

## **TO CAREER OPPORTUNITIES**

**Aligning Education to Build an Innovative Workforce**

***Thank you for joining us. Please take this time to mute yourself.***



**NJ PATHWAYS**  
TO CAREER OPPORTUNITIES  
Aligning Education to Build an Innovative Workforce

# **YEAR 2 PROGRESS UPDATE**

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**Center of Workforce Innovation for  
Manufacturing & Supply Chain Management**



## **Catherine Starghill, Esq.**

Vice President

*New Jersey Council of  
County Colleges*

Executive Director

*New Jersey Community College  
Consortium for Workforce &  
Economic Development*

# **WELCOMING REMARKS**



# AGENDA

## Manufacturing & Supply Chain Management Pathway Projects Year 2 Update

1. Machine Tool Technology
2. Machinst
3. Mechatronics - Repair and Maintenance of Industrial Equipment
4. Optics Technology and Manufacturing
5. Robotics and Automation
6. Diesel Mechanic Registered Apprenticeship
7. IET Essentials of Supply Chain Management
8. ScPro: Connection to Community College (Credit) and to 4 Year Universities
9. Stackable Credentials

Q&A

Upcoming Events



# **Our Education Partners**

- **Adelphi University**
- **Brookdale Community College**
- **Camden County College**
- **Essex County College**
- **High Point Regional High School**
- **Hunterdon Central High School**
- **Hudson County Community College**
- **Middlesex College**
- **County College of Morris**
- **Morris County Organization for Hispanic Affairs (MCOHA)**
- **Morris County Vocational School District**
- **Newton High School**
- **Project Self Sufficiency**
- **Raritan Valley Community College**
- **Red Trucking Inc.**
- **Rutgers School of Business - Newark**
- **Sussex County Community College**
- **Sussex County Technical School**
- **Thorlabs**
- **UCNJ Union College of Union County, New Jersey**
- **Wallkill Valley High School**
- **West Side High School – Newark Public Schools**
- **William Paterson University**



# **Center of Workforce Innovation for Manufacturing & Supply Chain Management**

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Jason Fruge, Lead Institution Representative  
**Sussex County Community College**



# Machine Tool Technology

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Jason Fruge, Sussex County Community College

## **EDUCATION PARTNERS:**

**Sussex County  
Community College**

**County College of  
Morris**

**High Point Regional  
High School**

**Newton High School**

**Sussex County  
Technical School**

**Wallkill Valley High  
School**

**Project Self Sufficiency**

**Thorlabs**



## **Machine Tool Technology**

**The Machine Tool Technology certificate program expands on the one-year certificate program, providing students an opportunity to gain a broader knowledge of and achieve a higher skill level in machining. Students are required to develop advanced skills in planning, designing, producing CAD prints, and setting up and operating machine tools to produce precision parts to specifications. The students receive training in programming, setting-up and operating CNC turning and machining centers.**

**There is also a general education component integrated into the program to satisfy demands for appropriate workforce skills. Upon completing the certificate program, students have the necessary skills to become employed as an entry-level machinist or a CNC technician.**



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PLA for Apprenticeship RTI

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Adult Learners

Adult Literacy

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Professional Development

Pilot

# Machine Tool Technology

**Sussex County Community College (SCCC) will be launching a series of high school workshops focused on enhancing pathways into manufacturing.**

**Each workshop will conclude with students earning an industry-recognized credential from Tormach, an industry leader in manufacturing and CNC Machining. This certification will transfer into SCCC as a three-credit elective in the one year Machine Tool Technology Certificate program (Summer/Fall 24).**

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# Machine Tool Technology

**Sussex County Community College (SCCC) will begin working to establish concurrent course offerings with designated high school partners.**

**Matching high school STEM curriculum to SCCC course outcomes. Shared effort in refining curriculum for better alignment.**

**SCCC will look to offer Machine Tool Technology I (MCHT), as this course has the greatest potential to align with current high school partners' STEM and robotics programs (Fall 24).**

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# Machine Tool Technology

**During the Summer and Fall of 2023, Sussex County Community College worked to refine an existing Prior Learning Assessment (PLA) process for the assessment of Industry-Valued Credentials for credit. Expands on the college's existing PLA process, to allow for enhanced transferability.**

**In manufacturing, sharing supporting evidence for PLA review is mostly propriety. Limiting available documentation.**

**Process is currently available.**

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# Machine Tool Technology

**With the development of an AAS in Machine Tool Technology, work to seek out 4-year college and universities where there may be potential to develop articulation agreements.**

**Sussex County Community College revised existing curriculum in similar areas of Robotics and Engineering to improved transferability to 4-year colleges and universities.**

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## **Professional Development**

Pilot

# Machine Tool Technology

**During the Summer of 2024, Sussex County Community College will offer a 2-day CNC based training workshop to better prepare concurrent faculty in offering more advanced levels courses at the high school levels.**

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# Machine Tool Technology

**Continue working with the local tri-county Labor and Workforce Development boards to promote opportunities for training.**

**Continuously update program offerings within the NJ Workforce databases, such as, but not limited to the NJ Careers site training explorer, and the newly migrated AOSOS (ETPL) training website.**

**Increase industry outreach to new potential partners and develop employment and training collaborations.**



# **Machinist**

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Carol McCormick, Camden County College

## **EDUCATION PARTNERS:**

**Camden County  
College**

**William Paterson  
University**

## **Machinist**

### **Pre-Apprenticeship Machinist Boot Camp - Direct Pathway to a Career**

**Camden County College (CCC) will offer the Pre-Apprenticeship Machinist Boot Camp to high school seniors to expand awareness of and a direct pathway to a career in manufacturing. The program aligns with CCC's Career Now model whereby students can participate in a career program during their senior year.**

**The Pre-Apprenticeship Machinist Boot Camp targets rising seniors and is structured to enable students to attend half days at their high school to complete their graduation requirements, and spend the second half of the day attending the training program at Camden County College.**

**The program will roll out in Fall 2024. This model can be used to build other career pathways.**





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# Machinist

## Pre-Apprenticeship Machinist Boot Camp: August 28 – December 16, 2024

### Activities:

- **Team planning meetings regarding Boot Camp Implementation.**
- **Communications department meetings including program flyer design.**
- **Class schedule finalized.**
- **Recruitment information to high schools beginning March 2024.**
- **Director of High School Partnership Programs distributes the information to high school counselor directors.**

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# **Machinist**

**The Pre-Apprenticeship Machinist Boot Camp curriculum aligns with Camden County College's 13 credit Computer Aided Manufacturing Certificate program (CAM.CA) enabling students to articulate into the Precision Machining Technology AAS.**

- **National Institute for Metal Working Skills (NIMs) Level One Machinist Certification – Measurement, Materials and Safety**

## **Transfer Agreements:**

**Precision Machining Technology (PMT.AAS) to Bachelor's Degrees.**

- **William Paterson University - PMT transfer to the Bachelor of Science in Management.**



# **Mechatronics – Repair and Maintenance of Industrial Equipment**

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Conrad Mercurius, Raritan Valley Community College

## **EDUCATION PARTNERS:**

**Raritan Valley  
Community College**

**Salem Community  
College**

**Hunterdon Central  
High School**

## **Mechatronics – Repair and Maintenance of Industrial Equipment**

**This program prepares individuals to apply technical knowledge and skills to repair and maintain industrial machinery and equipment such as cranes, pumps, engines and motors, pneumatic tools, conveyor systems, and production machinery. It also develops technical skills, including circuit construction, microcontroller programming, and the application of sensors and actuators.**



## **PATHWAY CONNECTIONS:**

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# **Mechatronics – Repair and Maintenance of Industrial Equipment**

**This program creates a pathway for non-credit students to transfer to degree programs or onboard into entry-level positions in the workforce.**

## **Progress:**

- **Secured training alignment with the FESTO Mechatronics Certification Program.**
- **Hired Instructor.**
- **Secured instructional equipment and materials.**
- **Secured training room for a pilot program.**
- **Implemented and launched the first cohort group.**

## **Challenges:**

- **Acquiring and installing equipment.**
- **Identifying, hiring, and onboarding instructors.**
- **Creating Train-the-Trainer for instructional support.**

## **Solutions:**

- **Utilizing the advisory board to find solutions to gaps.**

## **Ancillary outcomes:**

- **Private/Public Partnership success with L'Oréal .**
- **Anticipated employment upon graduation .**
- **Launched pre-apprenticeship in Industrial Maintenance/Mechatronics.**

## **Words of advice:**

**Collaborate and align with superintendents, Principals and guidance counselors early and often.**

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# **Mechatronics – Repair and Maintenance of Industrial Equipment**

**The project ensures that certificates earned in workforce programs transfer as articulated credits towards a mechatronics degree program while completing workforce training (expected Fall 2025):**

- **Forged partnerships with local industries and employers who require mechatronics skills.**
- **Collaborated with educational partners (Salem Community College).**
- **Collaborated with academic Deans.**

## **Challenges:**

- **Identifying and creating stackable credentials that allow students to earn industry-recognized certifications or badges along their educational pathway.**

## **Solutions:**

- **Collaborating with academic Dean to create pathway to degree program.**

## **Ancillary outcomes:**

- **Stronger Industry Partnerships: Collaborative efforts strengthen partnerships with employers and industry stakeholders.**
- **Instant feedback and effectiveness check from the advisory board.**

## **Words of advice:**

- **Be sure to include faculty on the core team when “standing up” innovative stackable dual-enrolment programs.**

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**Pilot**

# **Mechatronics – Repair and Maintenance of Industrial Equipment**

**As the lead Title II provider, Raritan Valley Community College provides different levels of ESL services to program learners. This program will enable advancement and/or improvement in a mechatronics career pathway.**

## **Challenges:**

- **We are at capacity. Ergo can only satisfy some learners who need to upskill in ESL.**

## **Solutions:**

- **Make professional development ESL courses.**

## **Ancillary outcomes:**

- **Better-prepared entry-level workers that enhance their employability.**

## **Words of advice:**

**It is crucial to secure enough funding to support learners in their journey.**

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### **Pilot**

# **Mechatronics – Repair and Maintenance of Industrial Equipment**

**Progress toward the launch of a sustainable pilot program that meets the need of all industry partners:**

- **Collaborated with Industry Partners led by L'Oréal.**
- **Built consensus with Industry Partners.**
- **Hired an instructor.**
- **Launched Pilot program.**
- **Enrolled six (6) incumbent workers; all completed the Pilot program.**

## **Challenges:**

- **Hiring a qualified instructor.**
- **Located and installing training equipment.**
- **Aligning operational costs and fee.**

## **Solution:**

- **Utilizing the Advisory Board to find solutions to gaps.**

## **Ancillary outcomes:**

- **Identified multiple industry partners with similar needs**
- **Aligned on training needs, skills, and finalized curriculum.**

## **Words of advice:**

- **Include industry partners throughout the process.**





# Optics Technology and Manufacturing

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Jason Fruge, Sussex County Community College

## **EDUCATION PARTNERS:**

**County College of  
Morris**

**High Point Regional  
High School**

**Newton High School**

**Sussex County  
Technical School**

**Wallkill Valley High  
School**

**Adelphi University  
Project Self  
Sufficiency**

## **Optics Technology and Manufacturing**

**This project is designed to create a pathway for students to enter the optics manufacturing industry in New Jersey, an incredibly important sector that has a strong presence in the state. Currently, only three programs at the community college level exist for optics technology of which Sussex County Community College's Optics Technology A.A.S. is one. This project works towards the expansion and bolstering of the Optics Technology program such that enrollment, reach, and job placement will all increase. This important pathway provides optics companies across the state with the skilled workforce needed.**



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Professional Development

**Pilot**

# Optics Technology and Manufacturing

**Sussex County Community College (SCCC) will create new dual enrollment courses in Optics Technology with local high schools that connect to existing high school curriculum and promote matriculation into the Optics Degree/Certificate program.**

**SCCC will work with Newton High School, Hopatcong High School, and Sussex County Technical School to establish satellite lab space in the high schools to offer more advanced optics technology courses. SCCC will also work with other county high schools to develop Fundamentals of Optics courses.**

**Plan and purchase equipment to support high school dual-enrollment courses.**

**As staffing changes have developed from NY Pathways Year 1 to Year 2, high school partnerships for concurrent opportunities have impacted project progressions.**

**While high school partners have paused projects, other institutions have sought additional concurrent offerings as they have lost elective opportunities.**

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Pilot

# Optics Technology and Manufacturing

**During the Summer and Fall of 2023, Sussex County Community College (SCCC) worked to refine an existing Prior Learning Assessment (PLA) process including the assessment of industry valued credentials for credit and expands on the college's existing PLA process to allow for enhanced transferability.**

**In manufacturing sharing supporting evidence for PLA review is mostly propriety. Limiting available documentation. SCCC will work with Thorlabs, Special Optics, Esco Optics, and Inrad Optics to conduct prior learning assessments for current workers in the industry.**

**Process is currently available.**

## PATHWAY CONNECTIONS:

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Pilot

# Optics Technology and Manufacturing

**SCCC will structure curriculum with Adelphi University, RIT, and University of Arizona to establish 2+2 articulation agreements for optics technology pathways.**

**Create a 1+1 articulation between the County College of Morris and Sussex County Community College to allow students in a generalized manufacturing track to specialize in Optics Technology manufacturing.**

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Pilot

# Optics Technology and Manufacturing

**In collaboration with Americom and NJ Pathways Sussex County Community College (SCCC) will design a professional development event that bolsters understanding of Optics Technology in the region (Spring and Summer 24)**

**The College will build off momentum from the three-day professional development event to work one-on-one with high school faculty from Newton High School, Hopatcong High School, and Sussex County Technical School, as well as other interested partners to get faculty acclimated to teaching in Optics Technology.**

**SCCC will work with Thorlabs, Special Optics, Esco Optics, Inrad Optics, and Satisloh North America to develop professional development for all optics technology faculty.**

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Pilot

# **Optics Technology and Manufacturing**

**Continue partnering with HSE/GED programs to offer free college-level coursework in Optics Technology, specifically OPTC101: Fundamentals of Optics. 3 cohorts of 20 students in total.**

**Partner with industry partners such as ThorLabs and Esco Optics to offer students who participate in the HSE/GED Optics program, an internship upon completion of their high school diploma.**



# Robotics and Automation

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Tom Roskop, County College of Morris



## **EDUCATION PARTNERS:**

**County College of  
Morris**

**Morris County  
Vocational  
School District**

**Morris County  
Organization for  
Hispanic Affairs  
(MCOHA)**

## **Robotics and Automation**

**With the world becoming increasingly connected, staying on top of the latest technological trends in robotics and automation is essential. Currently, training at the level needed to be competitive in the job market is relegated to 4-year degree options and/or job training in a specific automation technology. However, the entry point does not require such extensive education. Targeted technical training can be provided at various entry points to allow for multiple opportunities to engage in this area.**

**The Robotics and Automation pathway project will provide stakeholders with the opportunity to collaborate on advanced manufacturing and industrial automation initiatives across a spectrum of opportunities.**

**The Robotics and Automation pathway project will establish a certificate program in emerging technologies focusing on integration and implementation of industrial automation and robotic systems as they relate to manufacturing and adjacent sectors.**



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# Robotics and Automation

Partnered with Morris County Vocational School District to host Career Exploration Day with recruitment opportunity for the engineering share-time program which occurred on March 22, 2024. Here are the details:

- **Workshops were held in four areas:**
  - **Data Analytics**
  - **Cybersecurity**
  - **Manufacturing**
  - **Robotics & Automation**
- **High school partner will be marketing the programing throughout the county as a recruitment tool to 9th and 10th graders who may be interested in the share-time pathways.**

### Challenges:

- **Targeting a suitable demographic to attract and introduce into the pathway.**
- **Logistics for transportation**
- **Coordination of registration.**
- **As MCVSD has experience with recruitment for the above age bracket, with their assistance we have coordinated marketing and registration through them.**

### Ancillary outcome:

- **Career Exploration Day serves as a strong recruitment tool for current Share-time programs on our campus, particularly the Engineering Share-time program which comprises our Dual Enrollment connection.**

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# Robotics and Automation

County College of Morris has an established Share-time program with high school partner, Morris County Vocational School District, in Engineering called “Engineering Design & Advanced Manufacturing (EDAM)”:

- To connect the Robotics and Automation Pathway to our Dual-enrolled programs, we identified suitable course elective slots in the curriculum to insert our Robotics options.
- Beginning with the AY24-25, students enrolled in the EDAM program will be taking our new course “Robotics & Automation I” in the spring semester of their second year in the program.

**Approval of curricular change by our high school partner is on track to be completed by mid-May.**

### **Challenges:**

- Working with the appropriate steering committee to identify where robotics courses could be applied, given the scheduling restrictions (AM or PM attendance)

### **Solutions:**

- Remove a course in the program (Statics) which was low-interest and shown to be difficult for high school students who were not initially college math ready.

### **Ancillary outcome:**

- Interest by both parties to discuss splitting up the EDAM program into separate tracks, allowing students to take more electives across various technical areas (such as Robotics).

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# **Robotics and Automation**

**Non-credit courses will be created that align with the SACA (Smart Automation Certification Alliance) C-101 Certified Industry 4.0 Associate I certification.**

**Additionally, in order to offer the certification, CCM joined the Smart Automation Certification Alliance (SACA) as an educational institution:**

- **Content from the SACA C-level certificate was mapped with learning outcomes for alignment to the certification assessment. This allows for self-contained courses that will culminate in a certification, using the SACA criteria as a summative assessment tool.**

### **Challenges:**

- **Mapping the overlap with our Experiential Learning activity of developing a bootcamp program. A major differentiator was instructional length and scope of student.**

**The course(s) will be scheduled for summer delivery by mid-April.**

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# Robotics and Automation

**A certificate program has been submitted for review by our Curriculum Committee that incorporates courses developed in the Robotics and Automation area, such as Mechanical Drives, Hydraulics, Pneumatics, and Programming.**

**New courses (Robotics and Automation I & II) developed and submitted to curriculum. They will serve as content area electives in Robotics, as well as capstone for the certificate. These courses will cover content such as Industrial Controls, Manufacturing applications, and PLC Programming:**

- **Through our research we have mapped requisite entry-level technician skills into the program outcomes, as well as mapped to SACA certification outcomes. As a result, students who complete the 27-credit certificate program will receive the SACA C-101 and C-102 certifications.**

**Continued research of the viability of instruction at the Associates level and are currently assessing creating a Robotics option to our Engineering Technology AAS Degrees:**

- **The credit limitations have been a challenge and require extensive conversation between our faculty, advisory board, transfer partners, and our accreditor ABET.**

**Students in the Non-credit bootcamp will articulate two (2) courses, or seven (7) credits towards the Certificate of Achievement in Robotics, Automation, and Control.**

## **Challenges:**

- **Mapping certification requirements and reconciling with robust course and program outcomes.**

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Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

# Robotics and Automation

**County College of Morris will offer Robotics Technician as a pathway beginning Summer 2024.**

**Workforce Development group is currently working with employers to confirm Robotic OJT and RTI compatibility. Currently, 2-3 employers have already been identified, who employ Robotics technicians.**

## Challenges:

- **Securing employer partners for Robotics is a challenge when looking for pure robotics companies.**

## Solutions:

- **Expanding into adjacent sectors who utilize robotics and automation, and that have a need for technicians in the implementation and maintenance of such systems, has provided a pool of employers to explore partnership opportunities.**

## **PATHWAY CONNECTIONS:**

Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

Connection to High School (Dual Enrollment)

### **Community College (Non Credit)**

Community College (Credit)

Apprenticeship Development

PLA for Apprenticeship RTI

### **PLA**

Connection between Community Colleges (1+1)

Experiential Learning

Connection to CBOs

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Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

# **Robotics and Automation**

**In order to embed the Smart Automation Certification Alliance (SACA) certification into the program, a curriculum map was developed that maps the content of the SACA C-101 certification to the courses in the program:**

- **The SACA certification content also informed the development of the Robotics and Automation Bootcamp which aligns with articulated courses on the credit side.**
- **Currently, we are establishing criteria for accepting PLA for college credit (likely through assessment using SACA).**

## **Challenges:**

- **Common assessment tool across the non-credit sides, students prior experience, and the credit learning objectives.**

## **Solutions:**

- **SACA credentialing seems to be the most viable choice as can serve as an assessment tool for all three departments.**

## **PATHWAY CONNECTIONS:**

Big Idea Different than the Work Done in Year 1

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Community College (Credit)

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Professional Development

Pilot

# **Robotics and Automation**

**We endeavored to recruit industry partners for advisory board and work-based structured learning opportunities for college credit. We are currently recruiting and have found some individuals of interest to advise.**

**Additionally, we are to develop experiential learning outcomes for use in placement. The advisory will be crucial with this, as well as our alignments with our SACA credentialing to determine “levels” indicative with workplace experience.**

**Another component is to find internship opportunities for students, identify them for placement, and monitor student/employer outcomes. This is underway with assistance from our office of Career Services. Once students are placed into the field, we can satisfy our final objective of monitoring:**

- We are still extrapolating the level of skill mastery needed for an internship opportunity and will need some initial data to improve efficacy in this area.**

### **Challenges:**

- Not many companies are heavily into robotics and/or are not yet engaged in the technology, even though this is a consistent goal in their planning.**



## **PATHWAY CONNECTIONS:**

Big Idea Different than the Work Done in Year 1

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PLA for Apprenticeship RTI

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Adult Literacy

Connection to 4-Yr College/University

Professional Development

### **Pilot**

# **Robotics and Automation**

**The development of a non-credit pre-apprentice bootcamp for students in the Robotics and Automation field leading to the SACA C-101 Certified Industry 4.0 Associate 1 credential has been completed.**

**Next is to develop bilingual marketing materials to be shared with Workforce Board, Non-profits, and other community partners.**

## **Pilot plans include:**

- **Recruit veterans and their family members, adults and underrepresented students for the Robotics and Automation bootcamp.**
- **Deliver noncredit pre-apprentice bootcamp to 8 – 10 adults.**

## **Challenges:**

- **Recruiting those interested in entering that sector.**
- **Formalizing companies to work in.**

## **PATHWAY CONNECTIONS:**

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Professional Development

Pilot

# **Robotics and Automation**

**Currently identifying potential partnerships. Initial conversation with New Jersey Institute of Technology has shown favorable promise, as we currently articulate with them in various Engineering programs.**

**In order to make this a straightforward process, we are integrating the various pathway entry points into a current AAS Degree in Mechanical Engineering Technology:**

- **However, as conversations continue, we may be looking for further AAS pathway opportunities with other Engineering Technology Degree programs.**

## **Challenges:**

- **The integration due to timeline constraints, accreditation reviews, and various curricular options that can be used.**

## **Solutions:**

- **Discuss the challenge with potential transfer partners, work backwards and try to make holistic changes to the various program curriculums. Some of these proposals will be discussed with our upcoming reaccreditation visit, which will give us sustainability insight towards transfer.**

## **PATHWAY CONNECTIONS:**

Big Idea Different than the Work Done in Year 1

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**Professional Development**

Pilot

# **Robotics and Automation**

**In order to have adequate training for our faculty, instructors, and high school partners, we identified professional development needs in the area of robotics and automation in manufacturing. Some areas identified are:**

- **PLC programming using Rockwell/Allen-Bradley controllers**
- **Visual programming using Universal Robots**
- **Introduction to Robotic Imaging using MIR and FANUC Robots**
- **Microcontroller programming using Arduino**

**In order to provide this professional development, we developed curriculum and identified training providers to deliver professional development both remotely and in person.**

- **We are targeting Summer 2024 for college faculty and high school teachers.**

## **Challenges:**

- **Training that was generic enough due to technological constraints, yet sufficient to provide industry level exposure.**

## **Solutions:**

- **We reached out to equipment providers that cater to both secondary and post-secondary institutions.**



# **Diesel Mechanic Apprenticeship Program**

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Sean Kerwick, Hudson County Community College

## **EDUCATION PARTNERS:**

**Hudson County  
Community College**

# **Diesel Mechanic Apprenticeship Program**

**Working with the logistics industry in NJ Pathways Year 1 helped Hudson County Community College (HCCC) identify critical needs for specific skills in certain sectors, e.g., Transportation, and the demand for particular positions within these sectors, e.g., Diesel Technicians.**

**HCCC developed the Diesel Mechanic Apprenticeship Program in collaboration with a local industry partner, Coach USA.**

**An initial cohort of apprentices will be recruited, and the program will be launched in June 2024.**



## PATHWAY CONNECTIONS:

### Big Idea Different than the Work Done in Year 1

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Connection to High School (Dual Enrollment)

Community College (Non Credit)

Community College (Credit)

### Apprenticeship Development

PLA for Apprenticeship RTI

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### Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

### Pilot

# Diesel Mechanic Apprenticeship Program

The activities listed below are derived from the nine key tasks identified in the Diesel Mechanic Apprenticeship Implementation Plan. The pathway connections highlighted in Section 1, Big Idea, differ from the work done in Year 1, Apprenticeship Development, Adult Learners, and Pilot, will be addressed by completing each of the nine milestones.

## **(1) Establish the need for/scope of the program.**

**Sub tasks: Identification of key team members. Review of current apprenticeship offerings. Establish roles and responsibilities of partners. Enter into a draft agreement.**

***Status - Completed***

## **(2) Draft Reg. App Agreement.**

**Sub tasks: HCCC will review and approve internally. Coach USA will review and approve internally. Draft will include OJT (Coach USA) and RTI/Curriculum (HCCC) components. Board approval and fully executed MOU between HCCC & Coach USA.**

***Status - Completed***

## PATHWAY CONNECTIONS:

### Big Idea Different than the Work Done in Year 1

Connection to High School (Non-Credit)

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### Apprenticeship Development

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Professional Development

### Pilot

# Diesel Mechanic Apprenticeship Program

## **(3) Determine Budget.**

**Sub tasks:** Instructor, Developer, Instructional materials.

**Status - Completed**

## **(4) Recruitment of Curriculum Developer & Instructor.**

**Sub tasks:** Draft and post job descriptions. Review applicants and schedule interviews. Select candidate(s) and offer position(s) and appoint.

**Status - Curriculum Developer-hired February 2024**

**HCCC is recruiting for a Diesel Mechanic instructor.**

## **(5) RTI delivery logistics & Implementation.**

**Sub tasks:** Consult regarding the use of coach facilities. Determine instructor availability. Draft course schedule. Identify classroom space.

**Status – In progress**

## **(6) Develop Curriculum.**

**Sub tasks:** Align modules with study guides/manuals-draft content for each module identified-HCCC/ Coach review and approval.

**Status - In progress, anticipated completion date April. 30 2024**

## PATHWAY CONNECTIONS:

### Big Idea Different than the Work Done in Year 1

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### Pilot

# Diesel Mechanic Apprenticeship Program

## **(7) Apply to DOL.**

**Sub tasks: Review current work processes on DOL website. Determine if revisions are needed (25% maximum). DOL to review RTI and approved curriculum. Receive DOL approval. *Status - In progress, several consultative meeting, held with DOL, the most recent on 3/11/24***

## **(8) Apprenticeship recruitment/selection.**

**Add program to catalog. Determine recruitment process and identify candidates. Outreach to local trade organizations/business. Estimated cohort 15 students. Conduct Informational sessions. *Status - On schedule as per initial proposal***

## **(9) Launch - Evaluate processes and outcomes- Register students- Schedule classes.**

***Status - On schedule as per initial proposal***



## PATHWAY CONNECTIONS:

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Professional Development

### Pilot

# Diesel Mechanic Apprenticeship Program

## Challenges:

- **High demand for qualified Diesel instructors necessitated a wider approach than posting of job listings on college website, job boards and hiring platforms e.g. Indeed.**

## Solutions:

- **Outreach has been conducted with local business, community and trade associations, and unions. Focus on employers with direct association with the diesel industry other than transportation.**
- **Utilize Center Network-Outreach to partner colleges, e.g., Sussex County Community College.**

## Words of advice:

- **Reach out to Colleges with similar programs.**
- **Liaise with other industry-focused training providers, e.g. Union sponsored Apprenticeship programs. Engage with other CTE professionals and consultants.**
- **Attend industry related events and attend job fairs to connect with local employers.**

## PATHWAY CONNECTIONS:

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Professional Development

### Pilot

# Diesel Mechanic Apprenticeship Program

## Ancillary outcomes:

- **On-the-ground outreach has provided opportunities to promote the NJ Pathways program within the local business community.**
- **Networking opportunities with community organizations and unions, e.g., participation in Port Authority of New York & New Jersey's Council on Port Performance.**
- **Utilization of connections developed, e.g. Industry Action Team (IAT).**
- **Establishment of the Supply Chain and Logistics Employer Advisory Board. Employer partner has now joined our Supply Chain advisory board.**
- **Hudson County Community College can provide additional instruction to develop skills needed for the job. Those can include customer service, English as a Second Language, computer skills, essential work readiness skills, basic supply chain management principles, or record-keeping.**



# IET Essentials of Supply Chain Management

---

Dr. Lisa Hiscano,  
UCNJ Union College of Union County, New Jersey  
Joanie Coffaro, Middlesex College

## **EDUCATION PARTNERS:**

**UCNJ Union College  
of Union County,  
New Jersey**

**Middlesex College**

# **IET Essentials of Supply Chain Management**

**This project is the implementation of the Integrated Education and Training (IET) Essentials of Supply Chain Management (ESCM) program for English language learners. Students will be able to attain four industry credentials through the Council of Supply Chain Management Professionals (CSCMP) while also participating in contextualized English language instruction developed during NJ Pathways Year 1.**



## **PATHWAY CONNECTIONS:**

Big Idea Different than the Work Done in Year 1

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Connection to 4-Yr College/University

Professional Development

### **Pilot**

# **IET Essentials of Supply Chain Management**

## **UCNJ Union College of Union County, NJ**

**Implemented the Integrated Education and Training (IET) Essentials of Supply Chain Management (ESCM) program for English language learners. Summary of program results including completion rates, certifications and job placements will be available May/June 2024.**

### **Challenges:**

- **Managing the course materials and learning management systems with ESL students.**
- **Encouraging student participation.**
- **Adapting the training curriculum for ESL students.**
- **Strengthening student test taking skills.**

### **Solutions:**

- **Daily integrated, in-class review of on-line systems and course materials.**
- **Extension of time for modules, facilitated by both ESL and SCM instructors.**
- **Daily recap of the previous day's lessons.**
- **Increased presence and availability of the student support team.**

### **Words of advice:**

- **Conduct a hands-on pre-program orientation of on-line systems and student access**
- **Utilize diverse learning methods such as presentations, active participation, and on-line resources.**
- **Reinforcement of student supports available.**

## PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

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**Adult Literacy**

Connection to 4-Yr College/University

Professional Development

**Pilot**

# IET Essentials of Supply Chain Management

## Middlesex College

### Implement the Integrated Education and Training (IET) Essentials of Supply Chain Management (ESCM) program for English language learners:

- **Recruitment efforts underway**
- **Program to start May 2024**
- **Working with UCNJ Union College of Union County, NJ to identify challenges.**



# **SCPro: Connection to Community College (Credit) & to 4 Year University**

---

Mitra Choudhury, Essex County College

Cathy Skelley, Essex County College

Germaine Albuquerque, Essex County College

## **EDUCATION PARTNERS:**

**Essex County  
College**

**Brookdale  
Community College**

**West Side High  
School – Newark  
Public Schools**

**Rutgers School of  
Business - Newark**

# **SCPro: Connection to Community College (Credit) & to 4 Year University**

**This project provides opportunities to both credit and non-credit students for advancement in the Supply Chain Management sector and improve their employability profile. Certifications will be offered through the Council of Supply Chain Management Professionals (CSCMP) which is all inclusive, representing the integrated end-to-end supply chain.**

- A pilot program for 20 students to assist them in acquiring Industry Recognized SCPro™ certification while they are enrolled in the Supply Chain Management Associate Degree program. The project will include test prep as well as paid vouchers for the certification exam. This will prepare the student to become more viable in the current job market with not only an Associate Degree, but industry recognized credentials as well.**
- A pilot program for 15 students to transfer their non-credit certification in Supply Chain Management to three credits at Essex County College. The non-credit to credit pathways can be an alternative option and encourage higher education amongst underrepresented students.**





## PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

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Community College (Non Credit)

**Community College (Credit)**

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PLA for Apprenticeship RTI

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Connection to 4-Yr College/University

Professional Development

**Pilot**

# SCPro: Connection to Community College (Credit) & to 4 Year University

## Project Progress:

- **20 students enrolled in the Supply Chain Management AS degree program have the opportunity to receive test prep through CSCMP online courses to prepare for the corresponding certification exam. This cohort receives paid vouchers for course and certification exam.**
- **Vetting and selection process of students and courses are complete for first Pilot cohort.**
- **Transportation Operations.**
- **Supply Chain Management and Procurement.**
- **SCPro™ Fundamentals Certifications program/test prep to start March 2024.**
- **This cohort has the option to use their certification exam as their SCM credit course final exam.**

## PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

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Community College (Credit)

Apprenticeship Development

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Adult Literacy

Connection to 4-Yr College/University

Professional Development

**Pilot**

# SCPro: Connection to Community College (Credit) & to 4 Year University

## Project Progress:

- **Essex County College's Business Division Faculty completed the evaluation process of non-credit certifications through SCPro™ Fundamentals Certification program.**
- **Non-credit students who have completed and received SCPro™ certifications will now have the option to receive credits for SCM 101, if they register as an Essex County College Student, declare Supply Chain Management as their major, and proceed to LOG 101, 102 or 103 where the student will be processed to receive one credit per certification. If they complete all three certifications, they will receive 3 credits for SCM 101.**
- **Non-credit students are currently enrolled in the Pilot certification program. Once certification is achieved, students will be eligible for credit option.**
- **West Side High School is considering expanding their Dual Enrollment program to include the Supply Chain Management Associates Degree.**

## PATHWAY CONNECTIONS:

Big Idea Different than the Work Done in Year 1

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**Connection to 4-Yr College/University**

Professional Development

Pilot

# SCPro: Connection to Community College (Credit) & to 4 Year University

## Project Progress:

- **Brookdale Community College (BCC) continues to partner with Essex County College (ECC) to explore expanding their Supply Chain offerings in parallel with Essex County College's Supply Chain Management program.**
- **BCC is reviewing various Supply Chain online training certification programs and Train the Trainer for faculty and staff.**
- **The Supply Chain Management articulation agreement with Rutgers Business School, Newark is ongoing. Rutgers continues to review ECC's major business courses for transferability to their BS degree in Supply Chain Management.**



# **Stackable Credentials in Supply Chain Management Program**

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Dr. Gabriel Onabote,  
UCNJ Union College of Union County, New Jersey

## **EDUCATION PARTNERS:**

**UCNJ Union College  
of Union County,  
New Jersey**

**Red Trucking Inc.**

# **Stackable Credentials in Supply Chain Management Program**

**This project is the implementation of providing students with stackable credentials in Supply Chain Management. UCNJ Union College of Union County, NJ will work with partners to integrate industry courses into its Supply Chain Management curriculum. This project will also provide experiential learning opportunities which will increase student awareness and knowledge about supply chain and the industry in total. The intended outcome from the completion of this project is to add value by increasing critical thinking skills, internship opportunities, and employment marketability of students.**



## **PATHWAY CONNECTIONS:**

Big Idea Different than the Work Done in Year 1

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Connection to High School (Dual Enrollment)

Community College (Non Credit)

### **Community College (Credit)**

Apprenticeship Development

PLA for Apprenticeship RTI

PLA

Connection between Community Colleges (1+1)

Experiential Learning

### **Connection to CBOs**

Adult Learners

Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

# **Stackable Credentials in Supply Chain Management Program**

## **Objective:**

- **Implement Stackable Credentials in Supply Chain Management Program.**

## **Update:**

- **Newark Alliance / Prologis.**
- **Finding a new partner for Stackable Credentials Project.**

## **Accomplishments:**

- **Increased enrollment in the SCM program by 30.43% from Fall 2020 to Fall 2022.**

## **PATHWAY CONNECTIONS:**

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Apprenticeship Development

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PLA

Connection between Community Colleges (1+1)

## **Experiential Learning**

Connection to CBOs

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Adult Literacy

Connection to 4-Yr College/University

Professional Development

Pilot

# **Stackable Credentials in Supply Chain Management Program**

## **Objective:**

- **Implement Experiential Learning.**

## **Update:**

- **Relationship with Red Trucking.**
- **Site visit to Red Trucking - Experiential Learning opportunity for students.**

## **Going Forward:**

- **Attend Supply Chain Management conferences and seminars.**
- **Attend more site visits to other companies.**
- **Join New Jersey Motor Truck Bi-State Association.**
- **Develop working relationships with the Ports in New Jersey.**



# Q&A

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Center of Workforce Innovation for Manufacturing & Supply Chain Management





# Closing Remarks

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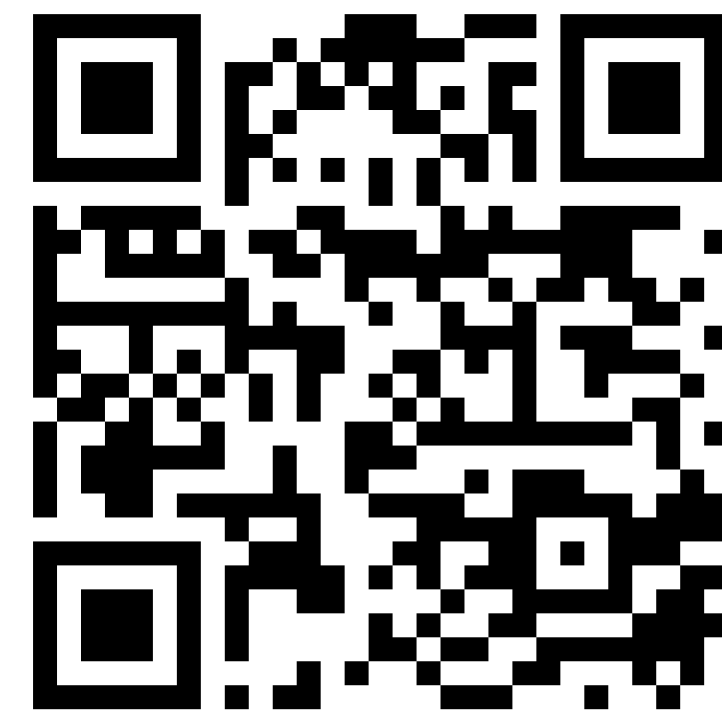
Catherine Starghill, Esq.

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