High-Cost Workforce Program Start-Up Funds
Final Report – Fiscal Year 2023-2024
Due: December 1, 2024

Legislative Requirement

SECTION 6.7.(e) of Session Law 2021-180

Report.

The System Office shall submit an initial report to the Joint Legislative Education Oversight Committee by December 1, 2022, and an annual report thereafter for each year the System Office provides funds to community colleges from the Fund on the programs receiving the funds, which shall include at least the following information:

(1) The community colleges that received funds, the amount of funds, and the types of programs started.

(2) The use of funds by community colleges receiving awards, including costs associated with student instruction, faculty salaries, instructional supplies, related instructional equipment, and accreditation costs.

(3) Evaluation of the success of the new community college programs receiving funds.

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High-Cost Workforce Start-Up Fund Program

Final Report – Fiscal Year 2023-2024

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System Office Contacts

Section 1: Program Overview – High-Cost Workforce Start-Up Funds

Executive Summary

This report provides an overview of the High-Cost Workforce Program Start-Up Funds initiative. During its meeting on January 20, 2023, the State Board of Community Colleges approved an allocation of $5,200,000 to 16 community colleges for this grant initiative. The funds were used to support the start-up of Tier 1A and Tier 1B workforce programs offered as a curriculum degree or a short-term workforce continuing education program.

Implementing the High-Cost Workforce Start-Up Fund Program encountered multiple challenges, such as delays in equipment procurement due to supply chain disruptions and difficulties recruiting qualified instructors for highly specialized fields. Despite these challenges, the initiative demonstrated that North Carolina's community colleges respond effectively to the state's workforce needs with targeted funding and strategic partnerships with industry stakeholders.

Key Achievements

- A total of 88 proposals were reviewed, and funding was awarded to 16 colleges based on their ability to meet specific workforce needs.

- The funded programs focused on high-demand fields with projected growth ranging from 2% to 32% over the next decade based on current labor market data.

- All 16 grantees launched new programs, resulting in 865 enrollments, 734 completers, and students earning over 450 industry-recognized credentials.

- The expenditure rate was 99%, with $5,165,906 utilized for program implementation.

- 65% of funds were dedicated to equipment purchases, ensuring hands-on training with industry-standard technology.

- 29 faculty positions were supported, reinforcing instructional quality and capacity.

- Employer engagement played a critical role in the success of the program. Below are key trends:
    - Strong Employer Involvement in Program Development
    - Employer Contributions to Training and Job Placement
    - Expanded Partnerships and Key Collaborations
    - Employer-provided equipment and Resources
    - Collaborative Advisory Boards
    - Curriculum Tailored to Industry Needs
    - Work-Based Learning and Internships

- Colleges proposed multiple strategies for sustaining their new programs after the grant period ended. Below are key strategies:
    - Strong industry partnerships will provide continued support and relevance to the programs.
    - Practical, hands-on training ensures students are job-ready and attract both students and employers.
    - High-demand programs and industry-recognized certifications ensure that program completers remain in demand by employers.
    - Expanding access and cross-training students with multi-role capabilities will help address evolving workforce needs.
    - Maintaining a responsive curriculum and steady enrollment through accessible programs will keep the initiative thriving for years.

The System Office staff is proud of the overall outcomes of this grant program. By focusing on meeting the needs of local and regional labor demands, the colleges are well-positioned to sustain these programs, attract new students, and meet the evolving demands of North Carolina's workforce.

Key Achievements – Additional Details

Below is more information about the colleges funded, programs offered, budget allocation, and enrollment/completion statistics.

College	Program Area	Budget Allocation	Expenditure Rate	Course Offered	FTE	Enrollment	Completers	Completion Rate
Asheville-Buncombe TCC	Robotic Welding	$326,997	100%	4	9	46	In Progress	
Bladen CC	Culinary Arts	$343,918	99%	5	5	31	30	97%
Brunswick	Dental Assisting	$424,850	100%	2	2	22	19	86%
Caldwell CCTI	Substation Technician	$425,000	100%	2	2	4	3	75%
Central Carolina CC	Truck Driver	$140,483	100%	3	3	39	32	82%
Isothermal CC	Industrial Cybersecurity	$423,388	98%	10	10	62	53	85%
James Sprunt	Maintenance Mechanic	$425,000	100%	5	5	20	19	95%
Johnston CC	Culinary Arts	$310,260	100%	16	16	92	In Progress	
Lenoir CC	Aviation Maintenance Technician	$425,000	100%	17	30	342	342	100%
Randolph CC	Truck Driver	$140,483	100%	3	9	14	14	100%
Richmond CC	Surgical Technician	$196,509	100%	3	3	29	27	93%
Rockingham	Certified Production Technician	$230,776	96%	3	3	21	19	90%
Rowan-Cabarrus CC	Biotechnology Technician	$425,000	97%	6	6	70	69	99%
Sampson CC	Heavy Equipment Operator	$425,000	100%	8	8	70	62	89%
Sandhills CC	Truck Driver	$140,483	100%	7	7	46	43	93%
Tri-County CC	Heavy Equipment Operator	$396,853	100%	3	3	17	16	94%
Grand Total		**$5,200,000**	99%	**97**	**121**	**865**	**748**	**91%**

Use of Funds by Allowable Expenditures

The Fund's expenditure rate was 99%. Below is an overview of project expenditures.

#	Budget categories	Total Allocation	% of Funding
A.	Salaries, Instructional (26 staff)	908,882	20%
B.	Salaries, Non-instructional (3 Staff)	195,848	4%
C.	Employer's Retirement	247,344	5%
D.	Employer's Social Security	86,401	2%
E.	Employer's hospitalization	132,100	3%
F.	Instructional Supplies and Materials	294,515	6%
G.	Program Equipment	2,953,380	65%
H.	Contractual Services	91,700	2%
I.	Staff Travel	48,867	1%
J.	Curriculum Development	27,163	1%
K.	Accreditation Costs	22,000	1%
L.	Faculty Preparation and Professional Development	191,800	4%

Key Expenditures by College

1. **Asheville-Buncombe TCC:**
   - Hired new faculty with experience in robotic welding to support the new program and invested in advanced robotic welding systems to train students in cutting-edge manufacturing techniques. Investing in high-tech equipment enhanced students' practical skills, making them highly employable in industries requiring automated welding solutions.

2. **Bladen CC:**
   - Hired culinary instructors with industry experience to teach the new culinary arts program. They purchased a fully functional mobile kitchen and commercial-grade kitchenware (utensils, glassware, etc.) for hands-on training. They developed a new curriculum to integrate local food culture and sustainable practices into the program. The mobile kitchen allowed for outreach and practical training in different locations, increasing enrollment and enhancing the students' hands-on experience.

3. **Brunswick CC:**
   - Hired faculty trained explicitly in dental assisting to support the growing program. They invested in the Commission on Dental Accreditation (CODA) process to ensure program credibility. Securing accreditation improved program recognition, leading to higher enrollment and ensuring that graduates could immediately enter the workforce with a recognized qualification.

4. **Caldwell CCTI:**
   - Invested in substation training equipment, including specialized high-voltage equipment, to simulate real-world conditions. They engaged specialized contractors to install equipment for the Substation Relay Technician program. The high-quality equipment enabled students to gain practical experience in power distribution systems, increasing their employability in the energy sector.

5. **Central Carolina CC:**
   - Hired experienced truck driving instructors to lead the new Truck Driver Training program. They purchased commercial trucks and simulators to provide students with hands-on learning. Using real-world equipment ensured that students were prepared for state licensing exams and allowed the program to meet the needs of local trucking companies.

6. **Isothermal CC:**
   - Hired a new cybersecurity instructor to support the launch of the Industrial Cybersecurity program. They developed a modern curriculum that covered cybersecurity fundamentals and advanced industry practices. They sent faculty for specialized training on the latest cybersecurity tools and software. The program attracted strong interest from students and local tech firms, with graduates quickly placed in high-demand jobs.

7. **James Sprunt CC**
   - Hired additional maintenance and machining instructors to expand the Industrial Maintenance Mechanic program. They purchased CNC machines, simulators, and machining tools to enable hands-on training for students. The state-of-the-art equipment provided students with practical skills needed in modern manufacturing, resulting in high job placement rates.

8. **Johnston CC**
   - Engaged external experts to retrofit a commercial kitchen for the Culinary Arts program, purchased modern kitchen appliances, including commercial-grade stoves and refrigeration units, and sponsored culinary instructors for certification courses such as ServSafe and American Culinary Federation membership. The well-equipped kitchen and professionally trained faculty helped position the program as a leading culinary arts training facility, attracting top local talent.

9. **Lenoir CC**
   - Invested in securing FAA accreditation for the Aviation Maintenance and Repair Technician program, purchasing aviation maintenance tool kits and training simulators for hands-on student practice. The program's FAA certification positioned graduates for immediate employment in the aviation sector, with local companies benefiting from a skilled workforce.

10. **Randolph CC**
    - Hired additional instructors to accommodate the growing demand for the Truck Driver Training program. They acquired new tractor-trailers for driving instruction and simulators to supplement practical driving experience. The investment in real-world equipment led to high pass rates on the CDL exam, allowing graduates to meet local transportation industry needs.

11. **Richmond CC**
    - Invested in medical-grade surgical equipment, including training simulators, for the surgical technician program and developed a curriculum that met national certification standards for surgical technicians. The state-of-the-art

equipment and curriculum resulted in high certification pass rates for students, many of whom were hired by local hospitals before graduation.

12. **Rockingham CC**
   - Hired skilled instructors to teach the Certified Production Technician (CPT)® program. Purchased production line simulators and testing equipment to support hands-on learning. Provided instructors with advanced CPT training to ensure they were prepared to deliver the new curriculum. The program quickly became popular among local manufacturers, hiring graduates to fill critical production roles.

13. **Rowan-Cabarrus CC**
   - Developed a comprehensive program for Biotechnology Technicians and Aseptic Manufacturing, focusing on current industry practices. They have also invested in the certification process for the BioWork Process Technician program to ensure compliance with industry standards. The program has produced highly trained technicians for the local biopharma industry, with many graduates securing jobs at leading biotech firms.

14. **Sampson CC**
   - Purchased heavy equipment such as bulldozers and excavators for the Heavy Equipment Operator program and trained instructors on operating new machinery and safety protocols. The latest equipment allowed comprehensive hands-on training, ensuring that students were job-ready upon completion. Many secure employment in local construction firms.

15. **Sandhills CC**
   - Invested in trucks and driving simulators for the Truck Driver Training program. They updated the curriculum to align with new federal CDL standards. The revised curriculum and advanced equipment led to high pass rates on CDL exams, positioning graduates for immediate employment in the transportation industry.

16. **Tri-County CC**
   - Purchased new heavy equipment simulators to supplement hands-on learning in the Heavy Equipment Operator program. They contracted with external vendors to deliver training on heavy machinery maintenance and safety. The new equipment and specialized training enhanced students' practical skills, resulting in a high job placement rate for construction and municipal services graduates.

Section 2: Legislative Reporting Requirements – Full Report

#1 Program Implementation

College Funded:

Below is a detailed overview of each college funded under the High-Cost Workforce Start-Up Fund Program.

College	Program	Key Component
Asheville-Buncombe TCC	Robotic Welding	It supported the development of welding technology programs with equipment that allowed students to practice advanced robotic welding techniques.
Bladen CC	Culinary Arts	Purchased essential culinary equipment such as a six-burner gas range and mobile kitchen unit, enabling students to gain practical industry experience.
Brunswick CC	Dental Assisting	Created an actual dental office training environment with dental chairs, simulators, and sterilization equipment to offer hands-on experience to students.
Caldwell CCTI	Substation Technician	Developed specialized training for substation technicians, with donations from industry partners like Duke Energy, including transformers and high-voltage equipment.
Central Carolina CC	Truck Driver	Launched a truck driver training program with full integration of commercial vehicle operations, preparing students for N.C. Commercial Driver's License exams.
Isothermal CC	Industrial Cybersecurity	Purchased cybersecurity and mechatronics training systems equipment, supporting hands-on learning experiences in automation and process control.
James Sprunt CC	Maintenance Mechanic	Implemented machining technology courses by purchasing surface grinders, lathes, and milling machines for technical training.
Johnston CC	Culinary Arts	Acquired kitchen equipment to launch the culinary program, providing a modern learning environment for culinary arts students.
Lenoir CC	Aviation Maintenance Technician	Purchased FAA-certified Snap-On toolboxes and equipment, facilitating the launch of FAA-approved aviation maintenance technician training.
Randolph CC	Truck Driver	Supported the development of a CDL training program with the necessary infrastructure and vehicles for practical truck driving experience.
Richmond CC	Surgical Technician	Established a surgical technology program to meet the healthcare workforce demand, providing equipment like Operation Room lights, sterilization tools, and scrub sinks.
Rockingham CC	Certified Production Technician	Created a manufacturing training program, purchasing advanced manufacturing systems and training aids for process control technicians.
Rowan-Cabarrus CC	Biotechnology Technician	Supported the launch of biopharma industry training with clean room and sterile manufacturing equipment, helping train workers for pharmaceutical manufacturing.
Sampson CC	Heavy Equipment Operator	Purchasing heavy equipment, such as backhoes and bulldozers, enables students to gain practical experience operating large machinery.

College	Program	Key Component
Sandhills CC	Truck Driver	Developed CDL training with partnerships from local logistics companies, offering full-scope driver education and commercial licensing preparation.
Tri-County CC	Heavy Equipment Operator	Integrated simulators and training equipment to provide realistic heavy equipment operation training, preparing students for jobs in construction and related fields.

Programs Funded

Here is an overview of the training programs/occupations funded by this grant.

Program/Occupation	Employment Projections	Average Wage
Dental Assisting Dental assistants support dentists by preparing patients for treatments, maintaining dental equipment, and performing administrative tasks such as scheduling and recordkeeping.	As demand for preventive dental services rises, the employment of dental assistants is projected to grow 8% from 2022 to 2032.	$42,510
Surgical Technician Surgical technicians assist surgeries by preparing operating rooms, arranging equipment, and helping doctors during surgical procedures. They ensure sterile environments and proper instrumentation handling.	The projected growth of 5% from 2022 to 2032 as the demand for surgeries increases due to an aging population.	$54,800
Truck Driver Truck drivers operate heavy trucks to transport goods across long distances. Training programs teach the operation of commercial vehicles, safety protocols, and regulatory compliance.	Employment is projected to grow by 4% from 2022 to 2032, with continued demand for goods transportation.	$52,440
Industrial Maintenance Mechanic Industrial maintenance mechanics repair and maintain factory equipment and machinery, such as conveyor belts, production machines, and hydraulic systems.	Employment is expected to grow by 9% from 2022 to 2032, driven by ongoing automation in manufacturing.	$59,380
Aviation Maintenance and Repair Technician Aviation maintenance technicians inspect, repair, and maintain aircraft. They ensure planes are safe to operate by following strict FAA regulations and keeping detailed records of repairs and inspections.	Employment is expected to grow 6% from 2022 to 2032 as air travel increases and the workforce ages.	$73,050
Certified Production Technician Certified production technicians ensure the smooth operation of manufacturing facilities. They monitor production processes, troubleshoot equipment issues, and ensure safety and quality standards compliance.	With increased automation in manufacturing, the demand for production technicians is expected to grow by 4% from 2022 to 2032.	$44,890
Biotechnology Technician Biotechnology technicians work in laboratories conducting experiments and analyzing data in genetics, microbiology, and pharmaceuticals. They assist scientists in developing new drugs and medical treatments.	Employment is expected to grow 9% from 2022 to 2032, with increased demand for medical research and biotechnology advancements.	$52,950
Aseptic Manufacturing Technician Aseptic manufacturing technicians work in pharmaceutical and biotechnology companies, ensuring	Expected growth of 3% from 2022 to 2032 as the pharmaceutical industry continues to grow.	$43,520

Program/Occupation	Employment Projections	Average Wage
that sterile environments are maintained for the production of drugs and vaccines.		
Robotic Welding Robotic welders use automated systems to perform welding tasks in manufacturing and production settings. They program and maintain robotic welding equipment, ensuring precise and consistent welds.	Demand for welders is expected to grow by about 2% from 2022 to 2032 as the need for automation skills in manufacturing increases.	$65,000
Heavy Equipment Operator Heavy equipment operators control and drive construction machinery such as bulldozers, excavators, and backhoes. They are responsible for preparing construction sites, digging trenches, and moving materials.	Employment is projected to grow by 5% from 2022 to 2032, driven by ongoing infrastructure development.	$55,280
Substation Technician Substation technicians maintain and repair electrical substations, which control the flow of electricity from power plants to homes and businesses. They work on high-voltage equipment to ensure the stability of electrical grids.	It is expected to remain stable, with moderate growth of around 2% through 2032 as infrastructure modernization continues.	$83,180
Industrial Cybersecurity Industrial cybersecurity professionals protect industrial facilities' information systems and networks from cyberattacks. They monitor threats, implement security protocols, and respond to security incidents.	Employment in cybersecurity is expected to grow 32% from 2022 to 2032, driven by increasing cyber threats across industries.	$120,000
Culinary Arts Culinary arts professionals prepare food in various settings, including restaurants, hotels, and catering services. They manage kitchens, develop menus, and meet food safety standards.	Employment for chefs and head cooks is projected to grow 15% from 2022 to 2032, much faster than average, driven by increased demand in dining establishments.	$56,310

#2 Use of Funds

Table 1: Budget Allocation, Expenditures, and Required Match

College	Course/Program Title	Grant Allocation	Final Budget Expenditure	% Expended	Required Matching Amount
Asheville-Buncombe TCC	Robotic Welding	$326,997	$326,997	100%	$32,700
Bladen CC	Culinary Arts	$343,918	$339,596	99%	$17,196
Brunswick CC	Dental Assisting	$424,850	$424,850	100%	$21,243
Caldwell CCTI	Substation Technician	$425,000	$425,000	100%	$42,500
Central Carolina CC	Truck Driver	140,483	$140,483	100%	$14,048
Isothermal CC	Industrial Cybersecurity	$423,388	$415,911	98%	$21,169
James Sprunt CC	Maintenance Mechanic	$425,000	$425,000	100%	$21,250
Johnston CC	Culinary Arts	$310,260	$309,960	100%	$31,026
Lenoir CC	Aviation Maintenance Technician	$425,000	$424,997	100%	$42,500
Randolph CC	Truck Driver	140,483	$140,483	100%	$14,048
Richmond CC	Surgical Technician	$196,509	$196,509	100%	$19,651
Rockingham CC	Production Technician	$230,776	$221,212	96%	$ 11,539
Rowan-Cabarrus CC	Biotechnology Technician	$425,000	$412,685	97%	$63,750
Sampson CC	Heavy Equipment Operator	$425,000	$425,000	100%	$21,250
Sandhills CC	Truck Driver	140,483	$140,483	100%	$14,048
Tri-County CC	Heavy Equipment Operator	$396,853	$396,740	100%	$19,843
	Total Allocation:	**5,200,000**	**$5,165,906**	99%	

The funding source used to meet the match requirements came from one or more of the following sources: local/county institutional funds, foundation funds, or employer grant funds.

Table 2: Budget Allocations – Statewide by Budget Categories

Below is a summary of the statewide allocations by allowable expenditures/budget Categories. Note: Most of the Funding will be used to purchase equipment (65%)

#	Budget categories	Total Allocation	% of Funding
A.	Salaries, Instructional	908,882	20%
B.	Salaries, Non-Instructional	195,848	4%
C.	Employer's Retirement	247,344	5%
D.	Employer's Social Security	86,401	2%
E.	Employer's hospitalization	132,100	3%
F.	Instructional Supplies and Materials	294,515	6%
G.	**Program Equipment**	**2,953,380**	**65%**
H.	Contractual Services	91,700	2%
I.	Staff Travel	48,867	1%
J.	Curriculum Development	27,163	1%
K.	Accreditation Costs	22,000	1%
L.	Faculty Preparation and Professional Development	191,800	4%

Table 3: Budget Allocations – By College and Budget Categories

#	Budget Categories	Asheville-Buncombe	Bladen	Brunswick	Caldwell	Central Carolina Randolph Sandhills	Isothermal	James Sprunt
A.	Salaries, Instructional		52,000	111,650		285,000	52,963	
B.	Salaries, Non-Instructional			43,848				
C.	Employer's Retirement		12,740	13,475		69,825	12,976	
D.	Employer's Social Security		3,978	11,896		21,375	4,062	
E.	Employer's hospitalization		7,500	14,786		44,382	8,189	
F.	Instructional Supplies & Materials		25,000	39,044			40,455	
G.	Program Equipment	326,997	50,000	132,051	425,000		215,180	425,000
H.	Contractual Services		46,700	25,000			20,000	
I.	Staff Travel		500	6,500		867	25,000	
J.	Curriculum Development			3,600			23,563	
K.	Accreditation Costs			20,000				
L.	Faculty Prep & Profess Develop		145,500	3,000			21,000	
	Total Allocation:	**326,997**	**343,918**	**424,850**	**425,000**	**421,449**	**423,388**	**425,000**

#	Budget categories	Johnston	Lenoir	Richmond	Rockingham	Rowan-Cabarrus	Sampson	Tri-County
A.	Salaries, Instructional	94,153		75,000	121,240	116,875		
B.	Salaries, Non-Instructional		152,000					
C.	Employer's Retirement	24,855	38,000	18,750	35,898	20,825		
D.	Employer's Social Security	7,203	12,000	5,738	11,209	8,940		
E.	Employer's hospitalization	9,945	15,000	7,500	15,550	9,248		
F.	Instructional Supplies & Materials	18,112	75,000	11,021		85,883		
G.	Program Equipment	155,992	98,000	75,000	45,078	183,229	425,000	396,853
H.	Contractual Services							
I.	Staff Travel		15,000	1,000				
J.	Curriculum Development							
K.	Accreditation Costs			2,000				
L.	Faculty Prep & Profess Develop		20,000	500	1,800			
	Total Allocation:	**310,260**	**425,000**	**196,509**	**230,775**	**425,000**	**425,000**	**396,853**

Here's an overview of how colleges used the grant funds. The narrative includes examples from specific colleges to illustrate common trends.

1. **Program Staff Salaries**

    - Having skilled faculty was critical for the success of new high-demand programs. Colleges used the grant funds to hire instructional and non-instructional staff, focusing on recruiting industry-experienced instructors and support staff. This grant supported 29 individual salaries.

    - Here are some examples: Richmond Community College Hired seven new instructional staff members for their Surgical Technology program, significantly contributing to its launch and early success. Isothermal Community College: Recruited a new cybersecurity instructor to support the growing demand for Cybersecurity and Mechatronics programs. This hiring allowed the college to launch the program effectively and cater to the ever-increasing student base.

2. **Equipment**

    - A large portion of the grant funds was allocated to purchase program-specific equipment. Colleges invested in cutting-edge technology and industry-standard tools to enhance hands-on learning and ensure that students were training on the same equipment they would encounter in the workplace.

    - Here are some examples: Sampson Community College: Acquired heavy machinery for its Heavy Equipment Operator program, including a Caterpillar Backhoe, John Deere Gator, and Bobcat Compact Loader. The purchase of these machines was critical for simulating real-world work environments and allowed students to train on the equipment they would be using in their careers. Lenoir Community College: Purchased FAA-certified toolboxes for its Aviation Maintenance Technician program, which ensured compliance with federal standards and gave students the tools required for their certification exams. Bladen Community College: Purchased a fully equipped mobile kitchen, along with commercial-grade utensils, glassware, and cutlery for its Culinary Arts program. This allowed students to gain practical, hands-on experience with industry-standard equipment, preparing them for careers in the culinary field.

3. **Contractual Services**

    - Colleges frequently used grant funds to pay for specialized contractual services supporting program start-ups and accreditation efforts. This included facility preparation, expert consultations, and curriculum development assistance.

    - Here are some examples: Brunswick Community College: Contracted with an expert in dental program accreditation to assist with writing the Commission on Dental Accreditation (CODA) narrative exhibits. This helped streamline the accreditation process for their Dental Assisting program, leading to a successful site visit and accreditation. Caldwell Community College and Technical Institute: Partnered with Utili-Serve, a specialized contractor, to help design and install the training equipment for the Substation Relay Technician program, ensuring that the facility was equipped for real-world scenarios. Bladen Community College: Engaged professional cleaning and assessment services to retrofit a new facility for the Culinary Arts program. This ensured the space met health and safety standards, enabling the program to begin operations.

4. **Curriculum Development**

    - Grant funds were used to develop new curriculum materials and course structures. Colleges focused on creating or updating syllabi, online learning modules, and course shells, often with the help of expert instructors.

    - Here are some examples: Isothermal Community College: Developed detailed syllabi and online course shells for the new Mechatronics and Cybersecurity programs, ensuring that the curriculum aligned with industry needs and provided robust hands-on learning experiences. Lenoir Community College: Invested significant time and resources in developing curricula for the Aviation Systems Technology program in line with FAA guidelines. The curriculum is designed to meet certification standards, ensuring graduates are ready for employment in the aviation industry.

5. **Accreditation Cost**

- Accreditation costs were an everyday use of the grant funds, particularly for new programs that needed to meet industry or regulatory standards. This ensured that graduates from these programs could enter the workforce with recognized, industry-approved credentials.

- Here are some examples: Brunswick Community College Used funds to cover the CODA accreditation costs for the Dental Assisting program. This accreditation was crucial for program legitimacy, allowing graduates to enter the workforce with a recognized qualification. Lenoir Community College: Invested in securing FAA accreditation for the Aviation Maintenance Technician program, which will enable the college to offer FAA-approved certification programs to students.

6. **Faculty Preparation and Professional Development**

- Colleges prioritized faculty training and professional development to ensure instructors were current with industry standards, teaching methodologies, and technological advances.

- Here are some examples: Brunswick Community College: Funded faculty preparation for the Dental Assisting program, covering numerous courses to enhance teaching capabilities and ensure faculty met the rigorous educational standards required by CODA. Isothermal Community College: Sent five instructors to an intensive training program for the Amatrol Process Control Learning System. This training equipped the instructors to deliver cutting-edge technical education in the Mechatronics program, ensuring students received hands-on, industry-relevant training.

#3 Program Evaluation – Measure of Success

Grant Implementation

This list reflects the overall milestones, obstacles, and lessons learned during the grant period, which will help inform the System Office for future grant-funded programs.

Milestones

Program Launches	▪ All colleges successfully established new workforce programs for high-demand workforce sectors.
Enrollment Success	▪ All colleges achieved or exceeded initial enrollment targets, demonstrating strong student interest and demand for the new offerings.
Industry Partnerships	▪ All colleges formed strong collaborations with local and regional employers, resulting in internships, job placements, and direct input on curriculum development.
Accreditation Achievement	▪ Where applicable, colleges achieved industry or regulatory accreditation, ensuring graduates earned recognized credentials required for employment.
Completion Rates	▪ All colleges reported high student completion rates, with most graduates earning industry-recognized certifications that enhanced their employability.

Here are some examples:

- Caldwell CC developed its Substation Relay Technician program despite early logistical challenges. The program expanded industry relationships and allowed students to earn stackable credentials. The dual-track structure, offering training for Electrical Lineworker and Substation Relay Technician roles, enabled students to acquire versatile skills across industries.

- Rowan-Cabarrus CC launched the first BioWork program in the region, addressing the demand for skilled biopharma workers. This initiative has helped create a trained workforce for local companies like Lilly, positioning the community for future growth in life sciences.

- Sampson CC expanded the scope of its Heavy Equipment Operator (HEO) program, adding career pathways beyond traditional road construction to fields such as municipal waste management and industrial construction.

Challenges

Equipment Delays	▪ Procurement delays due to supply chain issues affected the timely delivery of critical equipment needed for hands-on training, pushing back some program start dates.
Staffing Shortages	▪ Difficulty in hiring qualified instructors, particularly in specialized fields like aviation maintenance and industrial cybersecurity, delayed the launch of some programs.
Accreditation Process	▪ Securing accreditation for specific programs took longer than anticipated, impacting the timeline for program marketing and student enrollment.
Student Retention:	▪ Although many programs saw high enrollment, retaining students through to program completion took time, particularly for non-traditional and part-time students balancing other responsibilities.
Facility Limitations	▪ Inadequate or outdated facilities created challenges for some programs, particularly those requiring specialized labs or training environments.

Here are some examples:

- Due to supply chain disruptions, James Sprunt CC faced delays in receiving essential equipment. This impacted their Machining Technology program, limiting student training opportunities in the short term.

- Johnston CC experienced significant delays in equipment installation for its Culinary Arts program, which restricted the number of students it could enroll. The time taken to install a key refrigeration system spanned nearly six months, affecting program operations.

Lessons Learned

Early Industry Engagement	▪ Engaging employers early in the program development is critical for ensuring curriculum relevance and securing support, including equipment donations, internships, and job placement opportunities.
Flexibility in Planning	▪ Programs must build flexible timelines and budgets to account for unexpected delays, particularly in equipment procurement and staffing. Contingency plans for supply chain disruptions and staffing shortages are essential.
Importance of Hands-On Training	▪ Hands-on, practical training is critical to student success and job placement. Ensuring students can access industry-standard equipment and real-world experiences is essential to program effectiveness.
Sustained Student Support	▪ Providing robust student support services, such as financial aid, career guidance, and work-based learning opportunities, is essential for improving student retention and completion rates, especially for non-traditional students.
Accreditation Preparation	▪ Programs pursuing accreditation should plan for longer timelines and proactively meet accreditation requirements, ensuring that all necessary documentation and facilities are prepared well in advance.

Here are some examples:

- Caldwell CCTI noted that gathering resources and engaging employers early is essential for a high-cost program. Delays in equipment delivery could have improved marketing efforts, delayed enrollment, and slowed the program's growth.

- Bladen CC reported that large-scale purchases, such as mobile kitchens or specialized equipment, required detailed planning and a team of dedicated personnel to manage timelines effectively.

Program/Course Deliverables

Colleges successfully launched various workforce development programs with solid enrollment and completion rates. This report captures data from **Fall 2023** and **Spring 2024** reporting terms. Here are some of the key results:

Colleges	Total Courses	Total FTE	Enrollment	Completers	Completion Rate
Asheville-Buncombe TCC	4	9	46	In progress	In progress
Bladen CC	5	5	31	30	97%
Brunswick	2	2	22	19	86%
Caldwell CCTI	2	2	4	3	75%
Central Carolina CC	3	3	39	32	82%
Isothermal CC	10	10	62	53	85%
James Sprunt	5	5	20	19	95%
Johnston CC	16	16	92	In progress	In progress
Lenoir CC	17	30	342	342	100%
Randolph CC	3	9	14	14	100%
Richmond CC	3	3	29	27	93%
Rockingham	3	3	21	19	90%
Rowan-Cabarrus CC	6	6	70	69	99%
Sampson CC	8	8	70	62	89%
Sandhills CC	7	7	46	43	93%
Tri-County CC	3	3	17	16	94%
Grand Total	**75**	**73**	**523**	**424**	**81%**

Credential Earned

Credentials are critical for ensuring graduates are competitive in the job market and ready to meet industry standards. By earning these certifications, students gain a significant advantage in securing employment, advancing their careers, and contributing to the local economy. Below is a list of credentials earned by students during the same reporting terms as captured in the previous table.

College	Name of Credentials	Students
Bladen	ServSafe Manager Certification	12
Brunswick	DAI / Certificate of Completion	19
Caldwell	Class A CDL	3
Caldwell	OSHA-10 Construction	3
Caldwell	DOT Regulations-Heavy Vehicle Equipment and Machinery	3
Caldwell	811 Pipes Plus	3
Caldwell	Arc Flash for Utilities	3
Caldwell	Excavator Training	3
Central Carolina	NC Commercial Drivers License Class A	51
James Sprunt CC	OSHA	19
James Sprunt CC	NIMS	8
Johnston CC	ServSafe Certification	4
Randolph CC	CDL Commercial Driver License	14
Richmond CC	Tech in Surgery (NCCT)	7
Rockingham	Certified Production Technician (CPT) ® 4.0 Safety	8
Rockingham	Certified Production Technician (CPT) ® 4.0 Quality Practices & Measurement	8

College	Name of Credentials	Students
Rockingham	Certified Production Technician (CPT) ® 4.0 Manufacturing Processes & Production	8
Rockingham	Certified Production Technician (CPT) ® 4.0 Maintenance Awareness	8
Rockingham	NC3 Fundamentals of Industry 4.0	11
Rockingham	NC3 Fundamentals of Electricity - DC	11
Rockingham	NC3 Fundamentals of Electricity - A.C.	11
Rockingham	NC3 Three Phase Testing	4
Rowan-Cabarrus CC	BioWork Technician Certificate	69
Sampson CC	NCCER Heavy Equipment Operator – Level 1	27
Sampson CC	NCCER Heavy Equipment Operator – Level 2	27
Sampson CC	NCDOT Work Zone Flagger Certification	27
Sampson CC	National Safety Health Council – Forklift Operator License	39
Sampson CC	NCCER – Core Construction	27
Sandhills CC	CDL Commercial Driver License	36
Tri-County CC	CAT Certification (Sim Scholars Certification)	16

Credential	Description
ServSafe Certification	ServSafe certification is an industry-recognized credential for food safety issued by the National Restaurant Association. It certifies that the holder has been trained in proper food handling, sanitation, and safety procedures. This is a critical requirement for many roles in food service, such as chefs, kitchen staff, and restaurant managers. This certification makes students more marketable in the food industry, as most employers require staff to be ServSafe certified to meet health and safety regulations.
Dental Assisting I	Dental Assisting I Certification is an entry-level credential in the dental industry. It certifies that individuals are qualified to assist in dental procedures, prepare patients for treatment, perform basic office tasks, and handle dental instruments. This certification is recognized by dental offices and clinics across the country; with this credential, graduates can work as dental assistants, a role in high demand in dental practices.
Certified Production Technician (CPT)® 4.0	The CPT 4.0 credential is offered through the Manufacturing Skill Standards Council (MSSC). It certifies that individuals have mastered the core competencies of advanced manufacturing production, including safety, quality practices, manufacturing processes, and maintenance awareness. It consists of four modules: Safety, Quality Practices & Measurement, Manufacturing Processes & Production, and Maintenance Awareness. This certification is highly regarded in the manufacturing industry, providing graduates with a decisive advantage when applying for production-related jobs, including roles such as machine operators, production technicians, and maintenance workers.
Class A Commercial Driver's License (CDL)	The Class A CDL is a federally required license for operating heavy trucks and tractor-trailers. It allows drivers to operate vehicles with a gross combination weight rating (GCWR) of 26,001 pounds or more, including most large commercial trucks. Graduates with a Class A CDL are qualified to work as long-haul or local truck drivers, a field in high demand due to the logistics and transportation needs of various industries.
NCCER Heavy Equipment Operator – Level 1 & 2	The National Center for Construction Education and Research (NCCER) offers the Heavy Equipment Operator certification, which covers skills needed to safely operate heavy machinery such as bulldozers, backhoes, and excavators. Level 1 focuses on the basic operations, while Level 2 involves more advanced, specialized techniques. Graduates with these certifications are qualified for positions as heavy equipment operators in industries like construction, municipal services, and infrastructure projects, which are in high demand across the U.S.

Credential	Description
OSHA-10	The OSHA-10 certification is a 10-hour training program offered by the Occupational Safety and Health Administration (OSHA) that provides essential knowledge of workplace safety and health regulations. It focuses on recognizing and preventing workplace hazards. Employers often require this certification in construction, manufacturing, and industrial fields. It ensures that graduates are equipped to work safely, which is critical for roles in industries that prioritize worker safety, such as electrical linework and industrial maintenance.
Tech in Surgery – Certified (NCCT)	The Tech in Surgery – Certified (TS-C) credential is issued by the National Center for Competency Testing (NCCT). It verifies that surgical technicians have the skills to assist in surgical operations, including preparing operating rooms, sterilizing instruments, and assisting surgeons during procedures. This certification is required by hospitals and surgical centers, enabling graduates to work as certified surgical technologists. This credential is highly sought after in healthcare due to the increasing demand for surgical services.
BioWork Process Technician	The BioWork Process Technician Certificate is awarded to students who complete biotechnology and pharmaceutical manufacturing training. It covers skills such as operating equipment, understanding biomanufacturing processes, and adhering to Good Manufacturing Practices (GMP) in sterile environments. This certification prepares students to work in biomanufacturing, an industry growing due to the demand for vaccines, biologics, and other pharmaceutical products. Graduates are qualified for production and quality assurance roles in biotech and pharmaceutical companies.
FAA Aviation Maintenance	This certification is awarded by the Federal Aviation Administration (FAA) and is a prerequisite for anyone working as an aviation mechanic. It covers the general knowledge of aircraft systems and specialized airframe or powerplant maintenance skills. Earning this certification qualifies graduates to work as licensed aviation maintenance technicians. The aviation industry is highly regulated, and this credential ensures that graduates meet the strict safety and operational standards required to maintain aircraft.
Forklift Operator	This license certifies that the individual is trained in the safe operation of forklifts. It is often required for warehouse and logistics workers who handle material movement and storage. Having a forklift operator license increases employability in manufacturing, logistics, and construction, where material handling is critical.
National Career Readiness Certificate (NCRC)	The NCRC is a portable, industry-recognized credential that verifies the essential skills needed for workplace success. It measures abilities in applied mathematics, reading for information, and locating information. This certification enhances the employability of graduates across multiple industries by validating their workplace readiness and problem-solving skills.

Student Support Services

Support services played a critical role in ensuring student success throughout the grant. Many colleges provide tailored assistance to help students complete their programs and transition into the workforce. Below are some key highlights

Support Services	Examples
Financial Aid and Scholarships	o Sampson CC provided financial aid to all students enrolled in their Heavy Equipment Operator program, including providing personal protective equipment (PPE). These scholarships and resources ensured that students from low-income backgrounds could access the program. o Rowan-Cabarrus CC offered financial aid and scholarships and loaned laptops to 69 students enrolled in the BioWork program. These support measures removed barriers to participation and helped maintain a high completion rate.
Career Services	o Johnston CC established work-based learning opportunities, placing students with local employers at $11/hour. These students gained practical experience in their fields, particularly in the Culinary Arts program. o Rockingham CC helped students earn their Career Readiness Certificates (CRC). Of the eight students enrolled in the Certified Production Technician program, 4 earned silver and 4 earned gold certifications.
Tailored Student Support	o Sampson CC provided supplemental food through the Viking Pantry to students facing food insecurity, while Brunswick CC encouraged students to access their onsite food pantry and counseling services. o Tri-County CC students had full access to the Advising and Career Center, which helped students determine career paths and register for courses. The Small Business Center also provided guidance for students interested in starting their own businesses.

Employer and Partnership Engagement

Employer and partnership engagement was a cornerstone of the program's success, leading to direct workforce pipeline development and employment opportunities for students. These trends and strategies demonstrate the importance of strong partnerships between colleges and employers in addressing workforce needs. By aligning training programs with industry requirements and creating clear pathways to employment, colleges successfully addressed local workforce shortages and helped students transition seamlessly into high-demand careers. Below are key trends:

Key Trends	Examples
Strong Employer Involvement in Program Development	o Isothermal Community College: Worked closely with companies like Duke Energy, Verizon, and Michelin to tailor its Mechatronics and Cybersecurity programs. These employers provided feedback on the curriculum and helped ensure that the programs aligned with current technological and operational needs. o Central Carolina Community College: Engaged with multiple local trucking companies to ensure their Truck Driver Training program met industry demands. Local employers sent employees to be trained through the program, contributing directly to filling the regional truck driver shortage.
Employer Contributions to Training and Job Placement	o Sturm Ruger & Co.: Partnered with Rockingham Community College, hiring six students from the Certified Production Technician (CPT) program and offering pay raises to current employees who completed the program. This partnership demonstrated a direct link between training and career advancement within the company. o Lenoir Community College: Partnered with Spirit AeroSystems to provide hands-on training for over 342 students in the Aviation Maintenance Technician program. Spirit AeroSystems hired many program graduates, directly addressing their need for skilled aviation maintenance workers. o
Expanded Partnerships and Key Collaborations	o Isothermal Community College developed partnerships with companies like Duke Energy and Verizon to enhance its cybersecurity and mechatronics programs. These partnerships resulted in internships and job placements for graduates. o Lenoir Community College worked with Spirit AeroSystems to offer specialized aviation maintenance training. Over 300 students participated in the program, which helped address the region's critical need for skilled aviation workers. o Sampson Community College engaged with John Deere and other local employers to place 18 students into heavy equipment operator roles. This collaboration directly addressed the workforce shortages in construction and municipal services, ensuring long-term job security for graduates. o Central Carolina Community College addressed local workforce needs by training commercial drivers through its Truck Driver Training program. The program worked closely with local employers, such as NCWorks and area trucking firms, to place students into high-demand jobs. The program boasts a 96% completion rate and an impressive employment placement rate. o Isothermal Community College's Cybersecurity and Mechatronics programs aligned closely with local industry needs. Advisory board members from companies like Duke Energy, Michelin, and Verizon helped shape the curriculum to meet industry standards, ensuring that graduates were job-ready. o Sampson Community College: Established long-term partnerships with local employers such as John Deere and Caterpillar to support their Heavy Equipment Operator program. These employers provided equipment for the program and internships for students, ensuring a steady pipeline of trained operators for the local workforce.

Key Trends	Examples
	o Caldwell Community College & Technical Institute: Developed a partnership with Blue Ridge Energy to support their Substation Relay Technician program. This collaboration provided curriculum guidance, equipment, and job placements for graduates. o NCWorks has contributed by sponsoring students and helping them secure jobs post-graduation.
Employer-Provided Equipment and Resources	Sampson Community College received equipment donations from companies like John Deere and Caterpillar for its Heavy Equipment Operator program. This allowed students to train on real-world machinery without the college incurring significant capital costs.
Collaborative Advisory Boards	o Johnston Community College: The college's Culinary Arts program benefited from the advice of its advisory board. Nine local employers offered to host students for work-based learning (WBL) opportunities, helping students gain real-world experience before graduation. o James Sprunt Community College: Formed an advisory board for the Machining Technology and Industrial Systems programs, which played a critical role in shaping the curriculum to meet the evolving needs of local manufacturing and maintenance industries.
Curriculum Tailored to Industry Needs	Isothermal Community College collaborated with companies like Michelin and Duke Energy to develop Cybersecurity and Mechatronics programs that were aligned with local industrial needs. This ensured that graduates had the skills required to fill immediate job openings.
Work-Based Learning and Internships	Johnston Community College developed a robust WBL component in its Culinary Arts program, with local restaurants offering students internships during the program. This gave students direct access to the local job market, ensuring a smoother transition from training to employment. In collaboration with Apprenticeship NC, Caldwell Community College they established a pre-apprenticeship program for its Substation Relay Technician students. This program helped students gain practical experience while ensuring they were fully prepared for future job placements.

To ensure the sustainability of the workforce training programs initiated under the grant, each area plays a critical role in maintaining momentum, meeting workforce needs, and continuing the program's success beyond the grant period. Below is an overview of the strategies that colleges reported for sustaining their program once the grant funds have ended:

1. **Industry Partnerships**

   After the grant period, continued engagement with industry partners can help colleges secure alternative Funding, such as sponsorships or paid internship opportunities, to sustain program operations. Strong industry partnerships are essential for the long-term success of any workforce development program. Colleges can ensure their programs remain relevant to current industry needs by maintaining relationships with local employers. These partnerships provide a pipeline for job placements, internships, and apprenticeships, ensuring that graduates transition smoothly into the workforce. Additionally, employers can continue to support the program through donations of equipment, financial contributions, and expertise, all of which reduce reliance on grant funding.

2. **Hands-On, Practical Training**

   Hands-on training, supported by partnerships with local employers who provide access to natural work environments or offer internships, ensures the program's value to students and industry. Continued employer investment in training facilities or equipment also makes these programs more sustainable in the long term. Hands-on training is crucial for workforce readiness. Programs that emphasize practical, real-world experience produce graduates who are more confident and competent in their roles. This training model is highly attractive to employers needing employees who can "hit the ground running" without extensive training.

3. **High-Demand Workforce Programs**

   High-demand programs are more likely to attract ongoing support from the private sector and state/federal funding sources. Additionally, sustained demand in industries like healthcare (e.g., surgical technicians) and transportation (e.g., truck driver training) ensures a steady enrollment pipeline. Programs targeting high-demand sectors such as healthcare, information technology, and advanced manufacturing ensure a constant stream of students and strong job placement rates. As long as the demand for these skills remains high, the programs will be seen as a valuable resource by students seeking education and employers needing a skilled workforce.

4. **Industry-Recognized Certifications**

   By offering industry-recognized certifications, colleges ensure that their programs remain relevant to industry needs and continue to attract students even after grant funding ends. Employers may be willing to sponsor certification programs or send their current employees for upskilling, providing additional revenue streams. Offering certifications recognized and valued by employers, such as OSHA, CDL, or CompTIA Security+ for cybersecurity, dramatically enhances the employability of graduates. These certifications provide a measurable, standardized validation of skills, making the programs attractive to students and employers.

5. **Program Expansion and Accessibility**

   Increasing accessibility through distance learning, flexible schedules, or partnerships with employers for onsite training allows the program to reach more students, thereby increasing enrollment numbers and the program's financial viability. Expanding to new geographic areas also ensures long-term growth. Expanding programs to include multiple campuses, satellite locations, or online options increases accessibility, vital for maintaining and growing enrollment. Ensuring that programs are accessible to non-traditional students (e.g., working adults, rural students) increases the pool of potential enrollees.

6. **Curriculum Relevance and Responsiveness**

   Maintaining a dynamic and responsive curriculum will make the program sustainable by aligning it with evolving industry needs. Ongoing engagement with industry advisory boards ensures that the curriculum remains relevant, helping the program stay competitive in attracting new students and employer partnerships. Regularly updating the curriculum to reflect the latest industry standards, technology, and best practices ensures that graduates are well-prepared for the workforce. Responsive curricula that adapt to changes in the industry keep the program attractive to employers and students alike.

7. **Cross-Training and Multi-Role Capabilities**

   Cross-training increases the program's attractiveness to both students and employers. It creates a workforce that can adapt to changing job markets and industries, ensuring that the program continues to serve diverse employer needs. Multi-skilled graduates are more employable, making the program more attractive to prospective students, leading to sustained enrollment. Programs that provide cross-training and multi-role capabilities allow students to gain a diverse skill set, making them more versatile employees. For example, a technician trained in industrial maintenance and cybersecurity is more valuable to employers, as they can fill multiple organizational roles.

8. **Sustained Enrollment and Program Accessibility**

   Offering scholarships, financial aid, flexible class schedules, and remote learning options will help maintain enrollment post-grant. Accessibility measures, such as online courses and evening or weekend classes, will help attract non-traditional students, thus ensuring steady enrollment levels and financial sustainability. Sustained enrollment is the cornerstone of program viability after grant funding ends. Ensuring programs are accessible to a broad range of students.