



# Trade Adjustment Assistance Community College and Career Training Grant Program

## Round 4 Early Outcomes Study Report Volume 2 Grantee Profiles



### SUBMITTED TO

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## About This Report

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## Introduction

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The Trade Adjustment Assistance Community College and Career Training (TAACCCT) program provided grants to community colleges and other eligible institutions of higher education to expand and improve their ability to deliver education and career training programs. Grant-funded colleges served workers who were eligible for training under the Trade Adjustment Assistance for Workers (TAA) program as well as other adults in need of training for in-demand occupations.<sup>1</sup> In doing so, the grant program supported the U.S. Department of Labor's (DOL) goal of training workers with the skills to succeed in fast-growing, high-wage occupations. Between 2011 and 2014, the grant program awarded \$1.9 billion across four rounds of grants to more than 1,000 colleges nationwide.<sup>2</sup> The fourth and final round of grants (71 grantees, 263 colleges) ended in 2018.

In order to build evidence on grant-funded programs and strategies, DOL funded a national evaluation of each grant round to collect and assess qualitative and quantitative data across all participating colleges. The Round 4 evaluation included an outcomes study. This volume contains profiles of nine grantees—four single-institution and five consortia—whose grant-supported programs were included in the outcomes study. **Exhibit 1** shows the location of the selected grantees.

The profiles use data collected during site visits conducted in April and May 2017. Each provides an overview of the grantees and its occupational training programs, including types of industries and occupations, career pathways, and other grant-funded services provided to training participants.

Each profile begins with an **overview of the grantee**. It then summarizes **capacity-building strategies** the grantees implemented to accelerate and enhance learning, help participants persist in school and complete their programs, and connect participants to employment:

- *Accelerated and enhanced learning strategies* to reduce adult learners' time to complete training programs.
- *Persistence and completion strategies* to support adult learners' enrollment in, progress toward, and completion of training programs.
- *Connections to employment strategies* to connect adult learners to the workforce, such as work-based learning strategies.<sup>3</sup>

The profile also describes the **grantee's partnerships** and grant **implementation challenges and successes**. The profile concludes with the grantee's **plans for sustaining grant activities**.

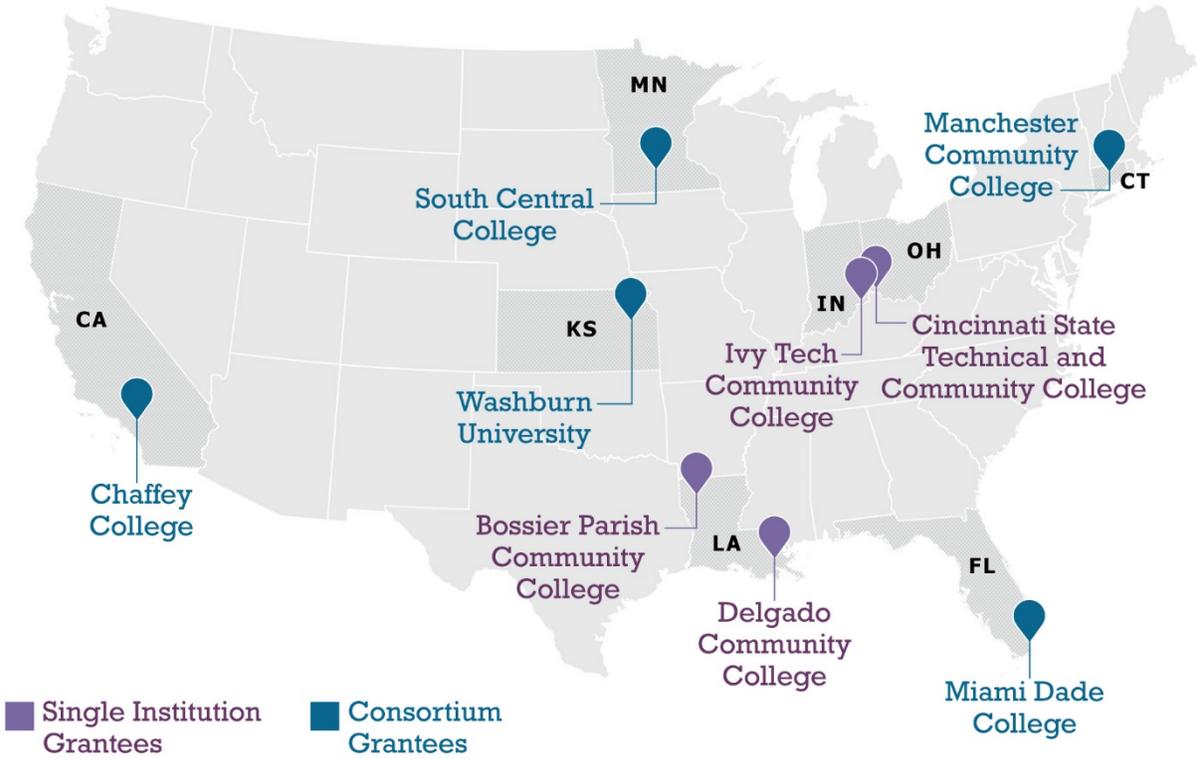
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<sup>1</sup> Congress authorized the TAACCCT grant program as part of the American Recovery and Reinvestment Act of 2009 to increase the capacity of community colleges to meet local and regional labor demand for a skilled workforce. Funding for the TAACCCT program was provided by the Health Care and Education Reconciliation Act of 2010. In their applications, grantees needed to provide data and analysis of both current and projected employment opportunities for each targeted industry and specific occupation. This must include data on current and expected job openings with at least two employers in the community in each targeted industry, and may include commitments from employers who expect to hire program participants.

<sup>2</sup> According to Cohen et al. (2017, 3), "729 unduplicated colleges participated in TAACCCT projects." However, the authors note 729 could underestimate the number of unduplicated colleges because some grantees classified members of their consortium as community college districts rather than individual community colleges. The number of duplicated colleges across rounds is 1,113.

<sup>3</sup> DOL viewed the capacity-building strategies as part of a larger career pathways framework. Chapter 6 of the *Early Outcomes Study Report* examines whether certain services that comprised the capacity-building strategies were associated with participants' training, employment, and other outcomes.

Exhibit 1. Round 4 Grantees in the Outcomes Study



## Bossier Parish Community College (Louisiana)

BOSSIER PARISH COMMUNITY COLLEGE, a single institution grantee, developed an Advanced Welding program and expanded the training offered through its Center for Excellence in Advanced Trade Skills program.

**Target Industries:** The grant targeted the oil and gas and advanced manufacturing industries. Advanced manufacturing uses innovative information, automation, and computation technologies to create new or improve existing products. It includes welding, machining, and mechatronics.

**Grant activities:** The college used grant funds for curriculum development, instructional and support staff, and equipment and facilities upgrades. The outcomes study focused on two new programs developed under the grant: Advanced Welding and Fast Track to Manufacturing.

**Target populations and recruitment:**

- The Advanced Welding program targeted moderately-skilled welders including Trade Adjustment Assistance-eligible workers, veterans, incumbent workers, and women. Applicants were required to pass a written knowledge exam and demonstrate intermediate welding skills.
- The Advanced Welding program recruited through: advertisements in the local newspaper, television, and radio; campus tours and open houses for instructors and participants from the local high schools and vocational/technical schools; and community outreach flyers.
- The Fast Track to Manufacturing program targeted participants in Bossier’s Advanced Manufacturing and Mechatronics program, but also accepted new applicants to the college.

**GEOGRAPHIC AREA SERVED**



**PROGRAM NAMES**

Advanced Welding  
Fast Track to Manufacturing

**GRANT AMOUNT**

**\$2,500,000**

**COLLEGE**



**FOCUS INDUSTRIES IN OUTCOMES STUDY**



**TARGET POPULATIONS**

- Trade Adjustment Assistance-certified individuals
- Veterans
- Incumbent workers
- Dislocated workers
- Individuals with welding experience, including women and high school technology-focused graduates (Advanced Welding)
- Participants of other programs in the college’s Division of Technology, Engineering, and Mathematics (Fast Track to Manufacturing)

**PARTNERSHIPS**



- Local employers
- Other educational institutions
- Louisiana Workforce Commission



## Key Strategies

Bossier used grant funds to expand and improve employer-identified trainings offered by its Center for Excellence in Advanced Trade Skills program within the college’s Division of Technology, Engineering, and Mathematics. The new Advanced Welding program addressed a gap between what high school programs provided (basic welding) and what employers in the oil and gas industries needed (advanced welding). The one-semester program was augmented when staff learned that potential participants did not have the requisite intermediate skills to enter the program. The college implemented a boot camp in the short term and later added intermediate welding skills to the program. The Fast Track to Manufacturing program added a hands-on component to a pre-existing program, Advanced Manufacturing and Mechatronics, which was designed under a previous round TAACCCT grant and did not include skills practice.

### Accelerated and Enhanced Learning Strategies

- **Modular learning.** Participants in the Advanced Welding program learned each set of skills at their own pace. The Fast Track to Manufacturing program provided the hands-on component of Bossier’s Advanced Manufacturing and Mechatronics program, which resulted in a Certified Production Technician credential. Training for the program covered four topics: safety, quality practices and measurement, production and processes, and maintenance awareness.
- **Stackable credentials.** Upon completing the Advanced Welding program, participants earned a Technical Competency in Advanced Welding. They could also test for Certified Welding Supervisor and Certified Welding

Inspector credentials from the American Welding Society. Additionally, completers could continue to another program in the Division of Technology, Engineering, and Mathematics to earn a Certificate of Technical Studies, followed by an Associate’s Degree in Applied Science in the Oil and Gas program or the Advanced Manufacturing and Mechatronics program. Fast Track to Manufacturing participants could earn a set of latticed and stackable credentials; after completing each of the four trainings described above, they could test for the corresponding Manufacturing Skill Standards Council credential. After completing all four assessments, they earned a Certified Production Technician credential.

- **Hybrid learning.** The Fast Track to Manufacturing program used a hybrid model that combined online lectures with in-person skills practice. Each self-paced section included approximately two hours of online content.

## Persistence and Completion Strategies

- **Articulation and transfer agreements.** Bossier's Center for Excellence in Advanced Trade Skills program had articulation agreements with Louisiana Technical University and Northwest Louisiana Technical College that allowed for credit transfers. The college also explored opportunities with vocational and technical schools that offered welding programs and industry partners to articulate a pathway that would allow participants to transition from basic welding programs to Bossier's Advanced Welding program.

## Employment-related Strategies

- **Work-based learning simulated classrooms.** The Advanced Welding program featured work-based teaching methods, using simulation technology and giving participants significant lab time to practice and achieve competency in particular welding subjects.
- **Job development, career coaching, and apprenticeships.** Grant funds supported a career coach, job development coach, and apprenticeship coordinator to support the college's Center for Excellence in Advanced Trade Skills program. The job development coach networked with employers to identify opportunities and tracked employment outcomes for participants. The career coach provided participants with career counseling, resume workshops, interviewing skills, and academic advising. The apprenticeship coordinator developed registered apprenticeships in the grant's target industries.

## Partnerships

Bossier developed the Advanced Welding program in response to local employers' requests for highly skilled welders. The college designed the program and curriculum, hired an instructor, and purchased welding booths and a welding simulator. A local employer contributed funds to renovate a classroom and provide participant scholarships.

## Implementation Successes and Challenges

Key grant successes:

- **The college designed and implemented new programs that focused on local employer needs.** The Advanced Welding and Fast Track to Manufacturing programs addressed needs that employers identified, such as gaps between basic and advanced welding skills among high school graduates.
- **Grant activities built upon successes from previous grant rounds.** The Fast Track to Manufacturing program provided skills practice so that participants of the pre-existing Advanced Manufacturing and Mechatronics program could earn stackable credentials.

Key grant challenges, and their resolutions:

- **Difficulty identifying an advanced welding program director.** Bossier struggled to find a program director who met the multiple needs of the position: a certified welding instructor with experience in higher education (specifically curriculum development) and willingness to accept a salary not commensurate with the private sector standard. Difficulties in hiring a program director led to delays in implementing the Advanced Welding program and fluctuations in the program design throughout the grant period.

- **Challenges in addressing an unanticipated skills gap.** Bossier's Advanced Welding program targeted intermediate-skilled welders. In practice, few applicants had the skills necessary for the program. The college had to quickly adapt, first by tutoring participants and instituting a boot camp, and later by including intermediate-level welding skills in the program.

### Sustainability

Bossier staff expected the Advanced Welding and Fast Track to Manufacturing programs would continue, either as standalone programs or as electives built into another program. The Advanced Welding program in particular could remain a free-standing program once it is approved as a for-credit program, thus enabling participants to qualify for financial aid. Bossier did not plan to retain the support staff hired with grant funds, including the career coach, job developer, and apprentice coordinator positions.<sup>4</sup>

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<sup>4</sup> Sustainability plans as of spring 2017 site visit.

## Chaffey College Consortium (California)

CHAFFEY COLLEGE led a consortium of 12 colleges to develop a regional training strategy in the Inland Empire, an urban and metropolitan area located east of Los Angeles County and centered on the cities of Riverside and San Bernardino.

**Target Industries:** The consortium targeted the advanced manufacturing, welding, and heating, ventilation, and air conditioning (HVAC) industries.

**Grant activities:** The consortium's major investment was Chaffey College's InTech Center, a training facility with multiple simulation work stations to provide participants with hands-on training. Other colleges used grant funds to purchase equipment that enhanced their ability to deliver training. All consortium colleges used grant funds to support staff salaries and some used grant funds to enhance existing curricula.

**Target populations and recruitment:**

- The target populations varied by program but included incumbent workers, veterans, unemployed or underemployed individuals, and high school graduates.
- Recruitment methods included brochure and literature distribution, social media outreach, and word of mouth. Some colleges conducted outreach activities at local high schools and businesses.
- California Steel Industries (CSI) referred incumbent workers to San Bernardino Valley College's Mechanical Craft program and local workforce boards made referrals to Barstow Community College and San Bernardino Valley College's Welding programs.

**GEOGRAPHIC AREA SERVED**



- College included in the outcomes study
- College not included in the outcomes study

**PROGRAM NAMES**

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Industrial Maintenance</li> <li>Advanced Manufacturing and Engineering</li> <li>HVAC</li> </ul> | <ul style="list-style-type: none"> <li>Industrial Automation</li> <li>Mechanical Craft</li> <li>Pre-Engineering</li> <li>Welding</li> </ul> |
|--|---|

**GRANT AMOUNT**

**\$14,980,284**

**LEAD COLLEGE**



**OTHER COLLEGES**

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>Barstow College*</li> <li>College of the Desert*</li> <li>Crafton Hills College</li> <li>Mt. San Jacinto College</li> <li>MiraCosta College*</li> <li>Norco College*</li> </ul> | <ul style="list-style-type: none"> <li>Riverside City College</li> <li>San Bernardino Valley College*</li> <li>Victor Valley College</li> <li>California State University San Bernardino</li> <li>University of California, Riverside</li> </ul> |
|--|--|

*Participated in the outcomes study\**

**FOCUS INDUSTRIES IN OUTCOMES STUDY**



**TARGET POPULATIONS**

- Incumbent workers
- Veterans
- Unemployed/underemployed individuals
- High school graduates

**PARTNERSHIPS**



- California Steel Industries
- Workforce Investment Boards
- Manufacturers' Council of the Inland Empire



## Key Strategies

The outcomes study focused on seven short-term training programs resulting in industry-recognized credentials at six colleges. Each college developed or redesigned its curricula to reflect the needs of local employers. Some colleges shortened existing training programs to enable incumbent workers to complete them more quickly.

The consortium’s major investment was the InTech Center. Located in Fontana, California, the InTech Center is a training facility with multiple simulation work stations—such as welding bays, a warehouse, and conveyor belts—that provide hands-on training to program participants. Although all program participants could access the InTech Center, it served Chaffey College participants almost exclusively.

### Accelerated and Enhanced Learning Strategies

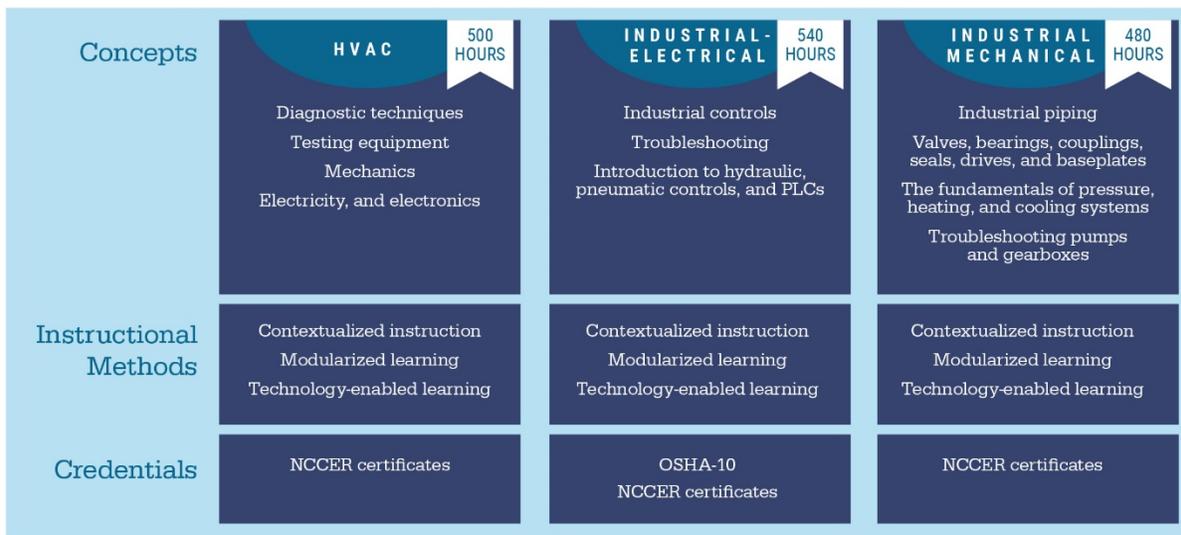
- Pathways and stackable credentials.** A number of colleges in the consortium offered courses that led to stackable credentials, up to and including associate’s degrees. As part of its industrial maintenance program, for example, Chaffey College offered training along three pathways that participants could choose to combine for multiple credentials: HVAC, industrial electrical, and industrial mechanical (**Exhibit 2**). Participants in Barstow College’s Welding program received credit for each class and earned a

certification after seven classes. The next credential on the pathway was an Associate’s Degree in Welding. The college’s Industrial Maintenance program had a similar structure. At the College of the Desert, participants that completed the nine-course HVAC program received credit that they could use toward an associate’s degree. While completing the nine courses, participants could also obtain other credentials by passing licensing tests, such as the Environmental Protection Agency (EPA) 608 license (refrigerant management) and North American Technician Excellence certification that tests basic understanding of HVAC concepts.

Exhibit 2. Summary of InTech Center Industrial Maintenance Program at Chaffey College



Industrial Maintenance has three possible pathways that can lead to a job or another pathway:



NCCER: National Center for Construction Education and Research, PLC: programmable logic controllers, OSHA: Occupational Safety and Health Administration

- Modularized instruction.** Most colleges offered modularized instruction. For example, Norco College implemented its 24-unit Industrial Automation program in blocks of one to four units. Some colleges organized their training modules around National Center for Construction Education & Research (NCCER) curricula and certifications. For example, San Bernardino Valley College’s intermediate Mechanical Craft program comprised 144 hours of instruction over 18 weeks, broken into modules such as basic safety, process math, hand tools, and power tools. As participants went through the program, they completed NCCER certifications after each module, giving them a chance to build a portfolio of nationally recognized credentials.
- Prior learning assessments.** Several colleges implemented prior learning assessments. For example, Barstow College instructors administered their final exams to participants with advanced skill levels in industrial maintenance or welding. Those who could demonstrate requisite knowledge and skills received credit for the course.

- **Redesign of existing programs for accelerated learning.** Several colleges modified existing curricula to help participants complete the programs and move into employment more quickly. For example, the College of the Desert modified its HVAC program so that participants could complete the nine courses in one year rather than two. Upon completion, participants received college credit and a certificate of completion, as well as an EPA 608 license in refrigerant management, and an industry-recognized North American Technician Excellence certification. Similarly, Norco College made its part-time, two-year Industrial Automation Accelerated Certificate and Employment program into a full-time, seven-month program that provided intensive, accelerated, cohort-style instruction. Completers earned an Industrial Automation certificate and an Occupational Safety and Health Administration (OSHA) certification.
- **Academic supports.** Most colleges provided academic advising, tutoring, and career services to participants in their training programs. For example, Barstow Community College hired an academic advisor for its Welding and Industrial Maintenance programs. The advisor provided tutoring and other supports twice per week.

### Employment-related Strategies

- **Career counseling.** Several colleges used grant funds to provide career coaching or counseling. For example, the InTech Center had three staff members who provided intensive career readiness and job placement support. These staff reviewed resumes, held job readiness workshops, shared employment leads, set up interviews, assisted with applications, and provided post-placement services such as mentoring. Participants in Norco College's Industrial Automation program completed 40 hours of career soft skills training, which covered job applications, mock interviews, and resume building.
- **Job search assistance.** Most of the colleges provided job search assistance in conjunction with career counseling. For example, responding to employer demand, Norco College focused job search assistance offered through its Industrial Automation program on the distribution and logistics industry.
- **Simulations.** The InTech Center at Chaffey College offered participants in its Industrial Maintenance and Pre-Engineering programs multiple simulation work stations for hands-on training. Similarly, Barstow Community College used grant funds to enhance hands-on training in the Welding program through the addition of a welding simulator.
- **Internships.** Staff from the College of the Desert's HVAC program encouraged participants to complete internships with local employers. The internships were 96 hours, usually took place the summer

### Persistence and Completion Strategies

- **Nonacademic supports.** The InTech Center and several colleges hired college navigators with grant funds. These staff helped participants persist in and complete their training programs by identifying and addressing challenges. Norco College used a case management approach, with the designated staff person meeting one-on-one with participants to link them with internal and external resources as needed. The College of the Desert hired three peer mentors who set up labs, oversaw the tool room, monitored lab safety, and met with participants to discuss challenges and needed services. MiraCosta College worked closely with veteran's services organizations, homeless shelters, and food pantries to address issues such as homelessness, food insecurity, mental health, and addiction.

after the participant completed the program, and offered either wages or college credit. Approximately 80 percent of the internships transitioned into full-time employment. Chaffey College offered paid and unpaid internships to increase participants' work experience, funding the paid internships with a grant from the James Irvine Foundation. Some of the employers that Norco College partnered with for its Industrial Automation program offered internships. For example, employer Brennan-Fiedler offered a paid internship for about five hours per week that participants could do while completing their classes.

### Partnerships

Employers—particularly CSI and Manufacturing Council members—helped design and support the largest single grant investment, the InTech Center. The InTech Center is housed in a CSI building that the company rents to Chaffey College for one dollar per year. CSI also donated training materials. In addition to supporting the InTech Center, CSI and other employers provided input to San Bernardino Valley College on its updated mechanical craft curriculum. Additionally, some colleges partnered with their local workforce investment boards to identify potential training applicants.

### Implementation Successes and Challenges

Key grant successes:

- **The InTech Center provided a platform for accessible, flexible training in advanced manufacturing that was responsive to employer needs.** Although industrial training programs existed at Chaffey College prior to the grant, the InTech Center provided hands-on, short-term, and often customized training for the industry. CSI and other local manufacturers provided financial support to the InTech Center.

- **The colleges adapted training programs for the unique needs of incumbent workers and unemployed and underemployed individuals.** Colleges that recruited unemployed individuals implemented more intensive, longer, full-day trainings. In contrast, incumbent worker training programs were shorter and scheduled to accommodate participants' work schedules (either at a time that employers could make the worker available during their regular work schedule or at a time when they were not scheduled to work).
- **Colleges responded to local employers' needs.** At Chaffey College, for example, this meant providing flexible training schedules to accommodate incumbent workers. Norco College responded to employers by refocusing the program's job search assistance and training to prepare industrial automation workers for the distribution and logistics industry rather than the manufacturing industry. Colleges also revised curricula to focus on skills needed by local industries.

Key grant challenges:

**Colleges had difficulty identifying and hiring staff.** MiraCosta, Norco, and San Bernardino Colleges had difficulty identifying instructors for their programs. Once identified, colleges strived to get timely approval from college administration for the new hires. Additionally, local workforce investment boards did not provide as many applicant referrals as expected and had to pivot to using other recruitment channels.

## Sustainability

The consortium colleges intended to continue the programs that were established or enhanced with grant funds through other sources of funding. For-credit programs, for example, will be sustained through tuition paid by participants, employers, and state and local workforce development programs, as well as federal and state postsecondary educational funding.

College staff reported that they forged meaningful and sustainable relationships with partners, including employers, industry associations, and, for some colleges, local workforce development boards. These partners indicated a willingness to support the programs post-grant in various ways, such as employers paying tuition for incumbent workers or local workforce boards reimbursing tuition costs. The InTech Center continues to operate with support from California Steel Industries.<sup>5</sup>

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<sup>5</sup> Sustainability plans as of spring 2017 site visit.

## Cincinnati State Technical and Community College (Ohio)

CINCINNATI STATE TECHNICAL AND COMMUNITY COLLEGE created the Greater Cincinnati Supply Chain Career Development Center to train individuals for careers in logistics, warehousing, and distribution.

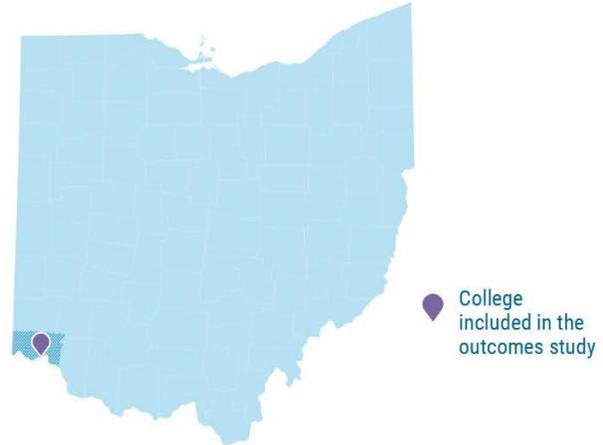
**Target Industry:** Cincinnati State, a single institution grantee, targeted supply chain management—particularly transportation and warehousing—to harness the industry’s growth potential and add another step in the college’s newly-launched supply chain degree program. Supply chain management involves coordinating activities among suppliers, manufacturing, warehousing, shipping, and customers. Cincinnati’s location at the convergence of several major rivers, highways, and railroad lines created high demand for workers in this industry.

**Grant activities:** Cincinnati State used grant funds to fill gaps in its own supply chain portfolio by renting and redesigning space for forklift training and adding a Commercial Driver’s License program through a partnership with Butler Tech.

**Target populations and recruitment:**

- The forklift training program targeted individuals with criminal records, those lacking high school degrees, and the long-term unemployed and underemployed.
- Staff promoted the forklift program through local American Job Centers. The program also relied on word-of-mouth after it was launched.
- Most participants in the forklift program were incumbent workers.

**GEOGRAPHIC AREA SERVED**



**PROGRAM NAMES**

Forklift Operator  
Commercial Driver’s License

**GRANT AMOUNT**

**\$2,498,888**

**COLLEGE**



**FOCUS INDUSTRY IN OUTCOMES STUDY**



TRANSPORTATION AND WAREHOUSING

**TARGET POPULATIONS**

- Unemployed or underemployed individuals
- Trade Adjustment Assistance-eligible individuals
- Incumbent workers
- Dislocated workers
- Veterans
- Women

**PARTNERSHIPS**



- Butler Tech
- Community-based organizations
- Local employers

# CINCINNATI STATE TECHNICAL AND COMMUNITY COLLEGE (OHIO)

- The Commercial Driver's License program targeted dislocated workers, as well as women, veterans, and those lacking high school degrees.
- Butler Tech marketed the Commercial Driver's License program through radio, television, billboard, and bus advertisements, as well as distributed program flyers.



## Key Strategies

Cincinnati State used grant funds to rent and redesign a building to house the new Greater Cincinnati Supply Chain Career Development Center; hire staff; purchase a forklift training curriculum; purchase warehouse equipment; and to contract with Butler Tech for the Commercial Driver's License program.

### Accelerated and Enhanced Learning Strategies

- **Stackable and industry credentials.** Both the forklift and the Commercial Driver's License programs offered short-term trainings that resulted in industry-recognized credentials for high-demand occupations in warehousing and trucking. The programs expanded the credentials offered along the supply chain management career pathway, including further certificate training for front-line manufacturing production and supply chain logistics.
  - Although the forklift training was a non-credit program, program completers could pursue an Associate's Degree in Supply Chain Management from Cincinnati State.
  - After trainees earned their Commercial Driver's License A, they could earn additional credentials, such as the Commercial Driver's License-B, or endorsements to operate certain types

of commercial motor vehicles and transport special types of goods, such as hazardous materials. These stackable credentials and endorsements gave drivers a broader skill set that enabled them to move to other trucking jobs within their company or with other employers.

### Persistence and Completion Strategies

- **Short and flexible sessions.** The forklift training was very short—one day of classroom training and one day of hands-on forklift practice—to facilitate completion. Participants needing extra time to master forklift skills could return to the facility for additional practice sessions. There was no formal test for the forklift operation certification, though participants needed to master basic safety and on-the-floor manual forklift operation skills. The Commercial Driver's License training was five weeks: 40 hours of classroom instruction and 160

hours of driving in a tractor trailer truck “on the pad,” a five-acre asphalt parking lot with cones and lanes for practicing driving trucks of varying lengths.

- **Tutoring.** The forklift training program did not include basic skills testing, but some participants came to the program with assessments conducted by the community-based organization that referred them. If the community-based organization referred a participant with low basic skills, staff from the Greater Cincinnati Supply Chain Career Development Center provided individualized tutoring. Additionally, Commercial Driver’s License program participants had to have at least fifth grade reading and math levels. Butler Tech offered tutoring to participants to improve their basic skill levels, but few participants used this service.

### Employment-related Strategies

- **Job placement and resume building services.** The Greater Cincinnati Supply Chain Career Development Center had a dedicated job placement specialist available to work with participants in the forklift training program to develop their resumes and coordinate job search and placement. The specialist also recruited employers to visit the training facility and describe their companies, offer job search advice, and conduct actual or mock interviews with participants. Butler Tech staff provided Commercial Driver’s License program participants with information about trucking companies, other relevant employers, and possible job openings. Butler Tech staff also had contacts with area trucking companies and referred participants nearing program completion to firms with available positions. Grant staff reported that because there was high demand for truck drivers throughout the grant period—especially for participants willing to drive long-haul truck routes—program completers who obtained their Commercial Driver’s License A could easily secure employment.

### Partnerships

Most forklift program participants were incumbent workers. The short duration of the training made it attractive for area employers to send small groups to learn new skills or refresh existing skills. The grantee successfully forged partnerships with several local employers to provide training for their existing workforce. For example, a manufacturer of custom sealing solutions for health care and industrial applications sent 30 employees (in several groups) through the forklift program.

### Implementation Successes and Challenges

Key grant successes:

- **Short-term training resulted in industry-recognized credentials and the creation of a supply chain career pathway.** Both the forklift and Commercial Driver’s License programs offered short-term training that resulted in industry-recognized credentials. These training programs expanded the supply career pathway credentials that could lead to further certificate training as a Manufacturing Skill Standards Council front-line manufacturing production and supply chain logistics technician. The pathway could also culminate in an Associate’s Degree in Supply Chain from Cincinnati State. Participants who earned their Commercial Driver’s Licenses could earn additional credentials or endorsements that broaden driver skill sets and could lead to higher earnings and different job opportunities at their companies or with other employers.
- Cincinnati State made the training available to a range of disadvantaged unemployed and underemployed individuals, leading to work in high demand jobs. The forklift training program targeted individuals with criminal records, those lacking high school degrees, and the long-term unemployed and underemployed to qualify for high demand

warehousing jobs as forklift operators. Obtaining a starting job as a forklift operator in a warehouse introduced the potential for higher paid managerial jobs within the warehouse, as well as (with additional certification or associate's degree training) high demand jobs as certified production and logistics technicians. Those completing the Commercial Driver's License program and passing the license exam could secure jobs starting in the mid-\$60,000s per year—with just five weeks of training and no high school diploma.

- **The forklift training program procured new equipment and hands-on training space.** The grant-funded warehouse training facility replicated what trainees would experience in a company warehouse, including warehouse shelving, loading docks, and five different types of forklift equipment. Local employers sent groups of workers for training, finding the short-duration program and resulting certification attractive. The program's flexibility to adjust the curriculum and schedule trainings at convenient times helped employers upgrade their workforce's skills while continuing production.

Key grant challenges:

- **Trucking firms carefully screen drivers for criminal backgrounds and drug/alcohol use in part because drivers must be insurable.** Staff made this clear to participants before beginning the program, but did not exclude participants with a felony or Driving While Intoxicated record.

## Sustainability

Grant staff tried to identify funds to keep the warehouse facility open and employ the staff needed for the forklift training program. Staff considered other supply chain industry uses for the facility, such as related trainings to generate revenue to pay for the facility and instructor. Despite these efforts, the grantee was unable to secure funding and the forklift training warehouse facility closed. However, grant staff expressed optimism that the Commercial Driver's License program would continue post-grant because it could be self-sustaining through tuition payments, Workforce Innovation and Opportunity Act funds, and other funding sources.<sup>6</sup>

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<sup>6</sup> Sustainability plans as of the spring 2017 site visit.

## Delgado Community College (Louisiana)

DELGADO COMMUNITY COLLEGE, a single institution grantee, created Scale-up Southeast Louisiana to train individuals for careers in advanced manufacturing.

**Target Industry:** Delgado Community College targeted the advanced manufacturing industry, the focus of the college's Technical Division. Advanced manufacturing integrates new technologies into manufacturing processes and includes skills such as welding, precision machining, and industrial maintenance. The college aimed to maximize the number of participants entering the workforce with industry-based credentials. The college expected demand for advanced manufacturing skills to increase with the construction of a new terminal at the New Orleans airport and recovery of the oil and gas industry after a slump in the mid-2010s.

**Grant activities:** Delgado Community College used grant funds to enhance its TECH 101 and Core Plus programs, foundational programs in the college's Technical Division. The college enhanced capacity in the two programs by hiring staff, making changes to the curricula, and purchasing equipment.

**Target populations and recruitment:**

- The target populations for the TECH 101 and Core Plus programs were Trade Adjustment Assistance-eligible workers, veterans, incumbent workers, and non-traditional learners.
- Scale-Up Southeast Louisiana initially relied on internal recruiting within the college, but later shifted participant recruitment efforts to external candidates.

**GEOGRAPHIC AREA SERVED**



**PROGRAM NAMES**

TECH 101, Core Plus

**GRANT AMOUNT**

**\$2,498,457**

**COLLEGE**



**FOCUS INDUSTRIES IN OUTCOMES STUDY**



**TARGET POPULATIONS**

- Participants enrolled in the Technical Division at Delgado Community College
- Trade Adjustment Assistance-eligible workers
- Incumbent workers
- Veterans
- Non-traditional learners

**PARTNERSHIPS**



- Local workforce boards
- Local employers

## DELGADO COMMUNITY COLLEGE (LOUISIANA)

- Recruitment strategies included community outreach flyers, word of mouth from participants and partners, and referrals from local community based organizations and workforce development boards.
- JOB1 Business and Career Solutions, the local American Job Center responsible for administering and implementing the City of New Orleans's Workforce Innovation Fund grant, was a key source of referrals.



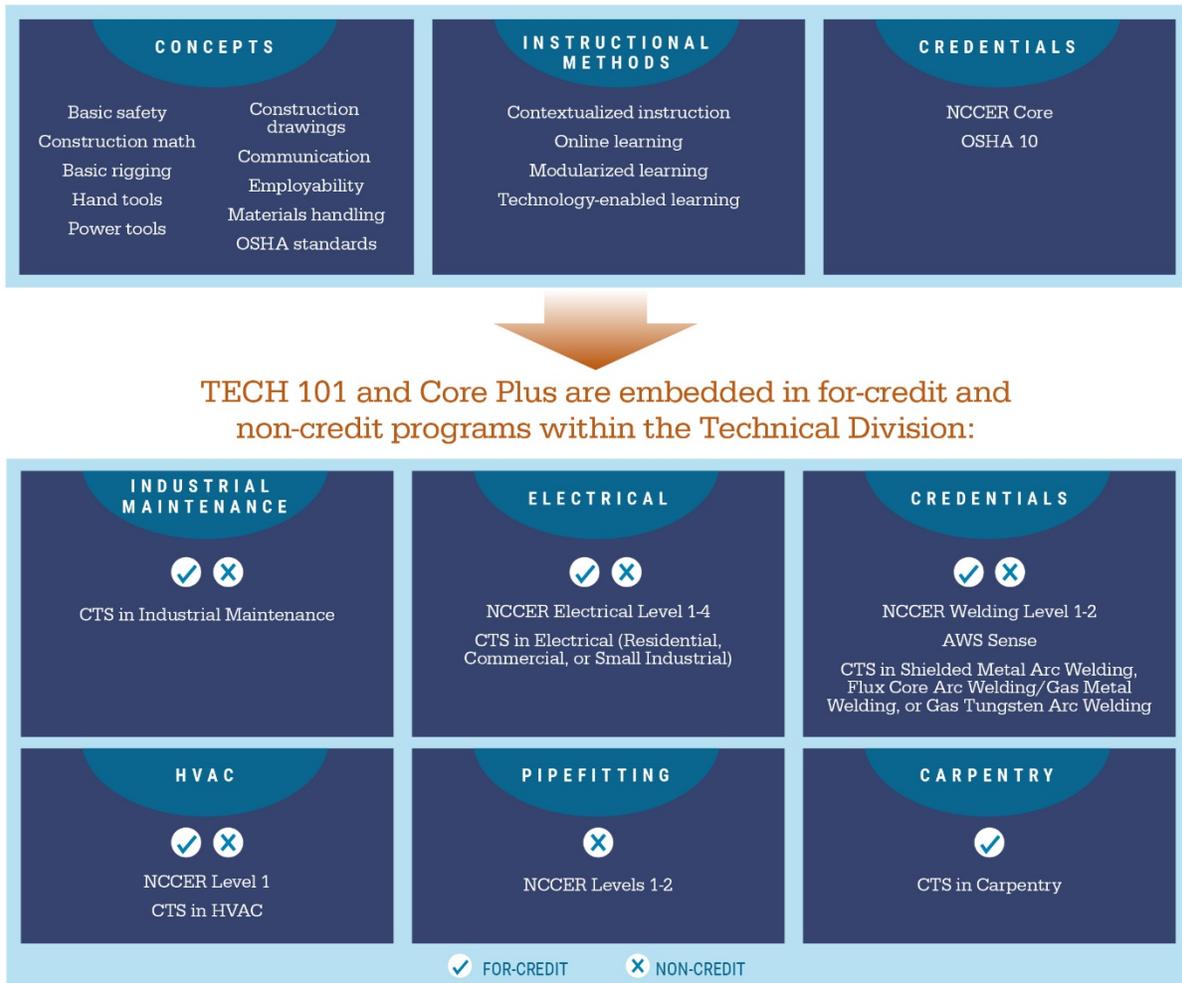
### Key Strategies

Delgado Community College used grant funds to implement Scale-Up Southeast Louisiana. The grant aimed to build capacity for the school's Technical Division workforce development programs. Specifically, the college hired program staff and instructors; implemented hybrid learning and team teaching into the TECH 101 and Core Plus curricula; developed new courses and programs with industry-based credentials; and purchased equipment, including virtual welding machines.

#### Accelerated and Enhanced Learning Strategies

- **Team teaching.** Contextualized learning through team teaching was an integral part of both TECH 101 and Core Plus. A basic skills teacher attended at least one-fourth of each class session. This team teacher was available to participate in lectures, lead basic academic instruction, and provide individual assistance to participants struggling with the course content.
- **Hybrid teaching.** In addition to in-person classes, TECH 101 integrated online learning components such as online lessons, quizzes, and assignments. Participants completed the online components on their own, outside of the classroom. The in-person instruction reinforced the online content and vice versa.
- **Stackable credentials.** Participants who completed TECH 101 earned National Center for Construction Education and Research (NCCER) Core and OSHA 10 credentials. Upon completion of TECH 101, participants could seek entry-level construction positions. However, as TECH 101 served as the foundation of most for-credit Technical Division programs, the Division expected completers to continue completing coursework within a concentration. Completion of these concentrations took one to two years and culminated in a Certificate of Technical Studies (CTS). Along the way, participants could earn stacked credentials within the NCCER ladder (see [Exhibit 3](#)).

Exhibit 3. Stackable Credentials Associated with TECH 101



### Persistence and Completion Strategies

- Program navigators.** Within the first week of classes, the two program navigators attempted to meet with participants to conduct program intake, identify challenges that could affect participation, make referrals to additional services, and create an individual service strategy. The individual service strategy was a tool that assessed the participant's educational history, work history, transportation plans, past involvement in the criminal justice system, supportive service needs, and professional goals, and then created an action plan. Program navigators were routinely present in classrooms, regularly followed up with

participants, and generally made themselves available for support.

- Prior Learning Assessment.** Participants who completed Core Plus earned the NCCER Core and OSHA 10 credentials. The most common pathway for participants was enrolling in one of the non-credit programs in the college's Technical Division. However, by completing a Prior Learning Assessment, they could enroll in a for-credit program in the Technical Division to receive credit equivalent to TECH 101.
- Articulation agreements.** Scale-Up Southeast Louisiana staff developed articulation agreements with South Central Louisiana College and Nunez Community

College. These agreements enabled participants who completed TECH 101 or Core Plus to easily transition into programs at each college.

### Employment-related Strategies

- **Job readiness workshops.** Scale-Up Southeast Louisiana employment supports included resume review, interview preparation, and job readiness workshops. The job readiness workshops, embedded within Core Plus classes, covered topics such as professional behavior, teamwork, and job search strategies. TECH 101 participants could participate in workshops outside of regular class sessions.
- **Job search assistance.** Scale-Up Southeast Louisiana's career developer developed strong connections with local employers to stay abreast of job opportunities and invited employers to participate in job fairs, mock interviews, and resume reviews that would expose them to participants. The career developer provided career coaching to participants and connected them with employment opportunities. Participants referred to Scale-Up Southeast Louisiana by JOB1 could return to JOB1 for employment assistance and placement while also receiving support from the career developer.

### Partnerships

Scale-Up Southeast Louisiana developed partnerships with the local workforce development system and employers to align the program with local industry needs. For example, college staff worked closely with JOB1 staff to build a referral pipeline and enable participants to access support services offered under both grants. Strong relationships with local employers also enabled staff to make programmatic changes based on employer feedback, develop training for incumbent workers, and provide opportunities for participants to interact with potential employers.

### Implementation Successes and Challenges

Key grant successes:

- **Partnerships with the local workforce development system and employers.** As described above, Scale-Up Southeast Louisiana developed effective partnerships with JOB1 and with local employers that benefitted participants in the TECH 101 and Core Plus programs. The program had a large and active Advisory Board with employers, representatives from the City of New Orleans, and community-based organizations.
- **Enhanced support services for participants.** Before Scale-Up Southeast Louisiana, Delgado Community College did not have staff capacity to provide case management and career development and guidance to participants. According to staff, the Program Navigators' ability to help participants identify and address challenges to program completion (such as transportation, child care, and housing) and assist with program logistics (such as registering for courses) helped participants persist, including non-traditional learners who would otherwise have difficulty navigating the college environment.

Key grant challenges:

- **High staff turnover and heavy workload.** Scale-Up Southeast Louisiana experienced challenges with staff turnover in the early stages of implementation and heavier-than-expected workloads for the program navigators. The program addressed these challenges by reassigning staff during periods of staffing vacancies and having the program coordinators serve as backup to the program navigators.

## Sustainability

Staff expected Delgado Community College to continue to offer the TECH 101 and Core Plus programs after the end of the grant. However, it was unclear whether the grant-funded

enhancements—team teaching, intrusive advising, and job readiness assistance—would continue. Sustaining these additional supports and staff positions (program coordinators and navigators) will depend on the college’s ability to secure additional funding.<sup>7</sup>

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<sup>7</sup> Sustainability plans as of the spring 2017 site visit.

## Ivy Tech Community College (Indiana)

IVY TECH COMMUNITY COLLEGE of Indiana, a single institution grantee, led the development and implementation of career pathways in information technology. Ivy Tech is one of the largest community college systems in the country, with dozens of campuses and locations across the state of Indiana. The outcomes study focused on eight grant-supported programs within Ivy Tech's School of Information Technology.

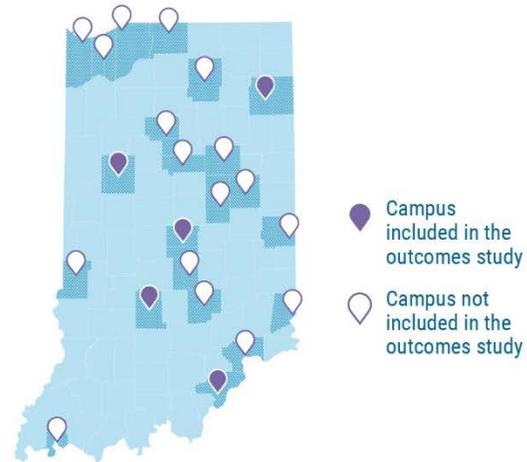
**Target Industry:** Information technology (IT)

**Grant activities:** Ivy Tech used grant funds to: update curricula developed with a previous round grant; build computer labs and data centers; provide professional development for instructors; and develop an online career pathway advising tool.

**Target populations and recruitment:**

- Ivy Tech did not target specific populations.
- The School of Information Technology marketed its offerings broadly through college advertisements and recruitment fairs.
- Ivy Tech routinely mailed information about its programs, including the IT programs, to participants not admitted to Indiana's four-year public institutions.
- The School of Information Technology sponsored "hackathons" in Indianapolis high schools as a way to bring attention to its programs.

### GEOGRAPHIC AREA SERVED



### PROGRAM NAMES

**Software Development**  
**Computer Science**  
**Cyber Security/Information Assurance**  
**IT Support**

**Network Infrastructure**  
**Server Administration**  
**Database Management**  
**Informatics**

### GRANT AMOUNT

**\$2,496,003**

### COLLEGE



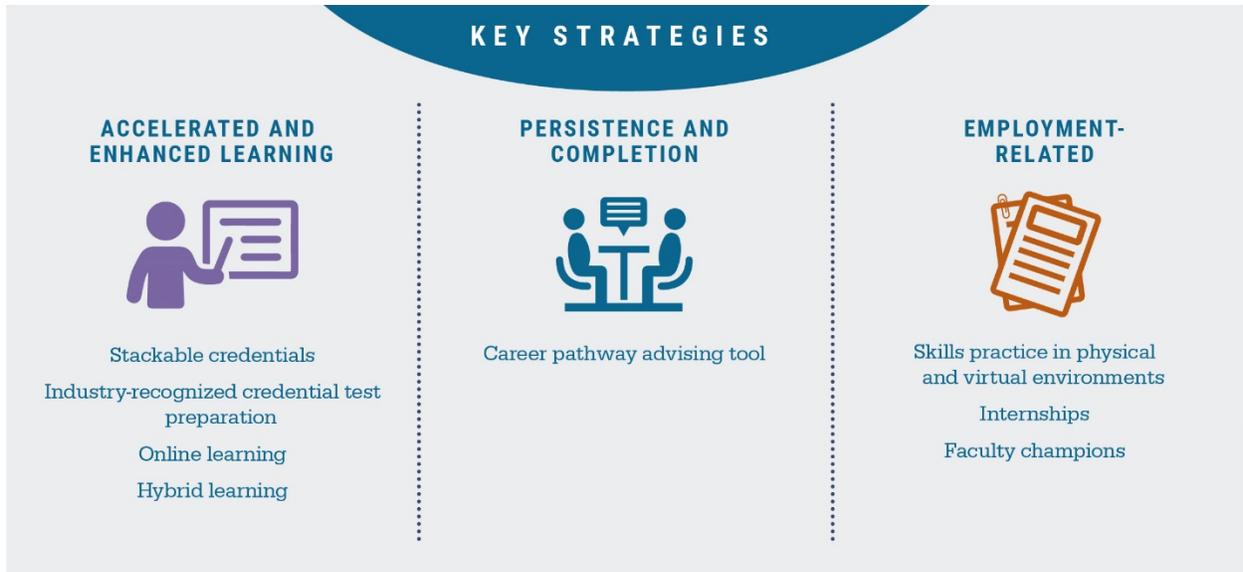
### FOCUS INDUSTRIES IN OUTCOMES STUDY



### PARTNERSHIPS



- Employers



## Key Strategies

Ivy Tech began redesigning its IT curricula in 2011 through a Round 1 grant, and used Round 4 funding primarily to purchase equipment and provide professional development to implement the new curricula. The college used a large portion of the Round 4 grant for new or updated computer labs and physical and virtual data centers. The college also provided professional development to faculty to help ensure that their knowledge and trainings in the IT sector were current and similar across campuses. The School of Information Technology partnered with Cisco and Oracle to provide curricular updates, professional development for instructors, and online, targeted courses for participants. Finally, Ivy Tech developed a new virtual career pathway advising tool for the School of Information Technology.

### Accelerated and Enhanced Learning Strategies

- Stackable credentials.** Seven programs had stackable credentials that begin with certificates and end with an associate's degree or associate of applied science degree (see [Exhibit 4](#)). The exception was Computer Science, which awarded an

associate of applied science degree only. Participants who expected to transfer to a four-year institution generally focused on associate's degrees, while an associate of science degree was more workforce focused. Most programs taught skills useful for a variety of IT positions, while specialization in one area, like database management.

**Exhibit 4. Stackable Credentials in Information Technology Programs**

Program	Credentials
Computer Science	<ul style="list-style-type: none"> <li>• Associate’s Degree in Science Transfer Single Articulation Pathways (TSAP)</li> <li>• Completers can enroll in any of Indiana’s public universities for a Bachelor’s in Computer Science</li> </ul>
Cyber Security/ Information Assurance	<ul style="list-style-type: none"> <li>• Certificate in Digital Forensics</li> <li>• Certificate in Network Penetration</li> <li>• Certificate in Network Security</li> <li>• Technical Certificate in Cyber Security/Information Assurance</li> <li>• Associate’s Degree in Science</li> <li>• Associate’s Degree in Applied Science</li> </ul>
Database Management	<ul style="list-style-type: none"> <li>• Technical Certificate in Database Management and Administration</li> <li>• Certificate in Data Analytics</li> <li>• Certificate in Database Administration</li> <li>• Certificate in Database Development</li> <li>• Associate’s Degree in Science</li> <li>• Associate’s Degree in Applied Science</li> </ul>
Informatics	<ul style="list-style-type: none"> <li>• Technical Certificate in Informatics</li> <li>• Certificate in Informatics</li> <li>• Associate’s Degree in Science (TSAP)</li> <li>• Associate’s Degree in Applied Science</li> </ul>
IT Support	<ul style="list-style-type: none"> <li>• Certificate in IT Support</li> <li>• Technical Certificate in IT Support</li> <li>• Certificate in IT Help Desk</li> <li>• Associate’s Degree in Applied Science</li> </ul>
Network Infrastructure	<ul style="list-style-type: none"> <li>• Certificate in Routing and Switching</li> <li>• Technical Certificate in Network Infrastructure</li> <li>• Associate’s Degree in Applied Science</li> </ul>
Server Administration	<ul style="list-style-type: none"> <li>• Certificate in Linux Administration</li> <li>• Certificate in Microsoft Administration</li> <li>• Technical Certificate in Server Administration</li> <li>• Associate’s Degree in Applied Science</li> </ul>
Software Development	<ul style="list-style-type: none"> <li>• Technical Certificate in Software Development</li> <li>• Certificate in Java Application Development</li> <li>• Certificate in Web Application Development</li> <li>• Certificate in Web Foundation</li> <li>• Associate’s Degree in Science</li> <li>• Associate’s Degree in Applied Science</li> </ul>

- Industry-recognized credential test preparation.** The School of Information Technology integrated test preparation courses for industry-recognized credentials into most of the IT programs. Programs offered one-credit test preparation courses to participants who completed coursework for the entry level credentials associated with their IT area, such as CompTIA’s A+ certification, Network+ certification, Security+, or Cisco’s Certified Entry Networking Technician Certification.
- Online learning.** Ivy Tech offered many of its IT courses online. For any class offered online, the college developed a standardized curriculum and resource list for use statewide. These online curricula increased access to the courses, particularly in smaller regions where there simply were not enough participants to offer certain classes. Some of the online classes were asynchronous, meaning that participants could complete them at their own pace.

- **Hybrid learning.** Some courses used a hybrid instructional model, in which instructors created video lectures for participants to view on their own time, combined with in-class instruction and lab practice.

## Persistence and Completion Strategies

- **Career pathway advising tool.** Ivy Tech developed a virtual career pathway advising tool for the School of Information Technology, where many programs are closely related and have overlapping course requirements. Faculty found that many participants took a combination of classes that did not meet the completion requirements for any program. The career pathway advising tool first helped participants choose a program of study and described the types of jobs available with the program-related credential and associated salaries. Then the tool mapped out course requirements, showed when the courses were offered, provided information on any prerequisites needed for each course, and recommended against certain “killer combinations” of difficult courses taken in the same semester.

## Employment-related Strategies

- **Skills practice in physical and virtual environments.** Ivy Tech’s IT programs emphasized skills-based learning through hands-on access to computers, servers, and network equipment. The college used grant funds to add 24 new labs and 12 data centers on campuses throughout the state to offer a hands-on learning experience for participants. In addition, the college created a virtual data center so that online, rural (not near a campus), and after-hours lab users could gain hands-on experience.
- **Internships.** Instructors helped participants identify internships. Employers often contacted instructors asking for interns, and in other cases instructors

proactively contacted employers. The instructors passed internship information to participants via email or by sharing it in the classroom.

- **Faculty champions.** Faculty champions acted as liaisons between Ivy Tech and particular companies or training providers to identify and integrate the most up-to-date IT knowledge and employer needs into curricula. For example, one faculty champion worked with a vendor (Red Hat) to ensure that Ivy Tech faculty and participants had the simulations, websites, and other materials needed to teach, learn, and pass the certification exam for Red Hat platforms. The faculty champion also shared job announcements and other information from Red Hat.

## Partnerships

Ivy Tech partnered with Cisco and Oracle to help address course content. These two companies provided free access to professional development for instructors and targeted online courses for participants. Instructors could track participant completion and comprehension of online coursework. Classes in Server Administration particularly benefited from online course work and simulations provided by the major server companies (i.e., Red Hat and Linux).

## Implementation Successes and Challenges

Key grant successes:

- **Ivy Tech kept pace with a fast-changing industry.** The IT field changes rapidly and it is difficult for colleges to stay current in terms of software and hardware participants use for hands-on training, and in terms of course content. Ivy Tech partnered with Cisco and Oracle to help address course content, provide professional development for instructors, and offer targeted online courses for participants. These partnerships provided Ivy Tech with a

free, low-effort solution to keeping coursework current across all campuses and faculty.

- **Ivy Tech improved equity and consistency of participant training and experience.** New computer labs, server rooms, and a virtual server all served to “level the playing field” for participants across Ivy Tech’s campuses and between campus-based and remote learners. The grant increased the number of participants with access to computers and other equipment for practice and simulations.
- **The virtual career pathway advising tool helped participants navigate the school and programs.** Ivy Tech considered the online advising tool a great success. Faculty members had more information available when they were advising participants and they found the class mapping and scheduling functions helpful when assessing course frequency and overlap. The college is now exploring how to replicate the advising tool at other schools.

Key grant challenges:

The key challenge was **implementing grant activities statewide**. Ivy Tech has over 40 locations and teaches classes in more than 75 communities, while only one staff member was tasked with managing the grant. Given the focus on standardizing the participant experience across the state, the grant director was challenged by distances between campuses and the need to spend time at each.

### Sustainability

Ivy Tech intended to continue all the programs in the School of Technology and the relationships with Oracle and Cisco. However, staff expressed concern about replacing and updating the large amount of equipment purchased through the grant to keep up with changes in technology. The college generally uses equipment for five to 10 years, even though the field changes approximately every 18 months. Because the equipment was purchased at once, it would all require simultaneous replacement—a challenge without another large source of funding.<sup>8</sup>

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<sup>8</sup> Sustainability plans as of the spring 2017 site visit.

## Manchester Community College Consortium (Connecticut)

MANCHESTER COMMUNITY COLLEGE led the implementation and expansion of the Connecticut Advanced Manufacturing Initiative to increase the footprint of advanced manufacturing training across the state of Connecticut in response to increasing demand for workers.

**Target Industry:** Advanced manufacturing encompasses manufacturing machine technology, computer assisted design, computer-assisted manufacturing programming, precision sheet metal fabrication, welding technology, and electronics technology.

**Grant activities:** The grant funded an expansion of the Advanced Manufacturing program at four colleges and the implementation of the program at one college. The grant also supported a Welding program and used funds to design curricula, staff programs, and contract with local workforce investment boards to recruit participants. The outcomes study focused on the Advanced Manufacturing and Welding programs.

### Target populations and recruitment:

- The grant expected to serve unemployed and underemployed individuals seeking a credential for a middle-skill job. The grant also targeted current college students, Trade Adjustment Assistance-eligible workers, graduating high school students, and veterans.
- One college, Naugatuck Valley Community College, targeted incumbent workers.
- Program directors at each college worked with colleagues in related programs to advertise the program.
- The grantee funded the “Make it Here” statewide advertisement campaign.
- Local Workforce Investment Boards planned to identify potential participants.

### GEOGRAPHIC AREA SERVED



### PROGRAM NAMES

Advanced Manufacturing  
Welding

### GRANT AMOUNT

**\$15,000,000**

### LEAD COLLEGE



MANCHESTER  
COMMUNITY  
COLLEGE

### OTHER COLLEGES

Asnuntuck Community College\*  
Housatonic Community College  
Naugatuck Valley Community College\*  
Middlesex Community College  
Three Rivers Community College  
Quinebaug Valley Community College\*

*Participated in the outcomes study\**

### FOCUS INDUSTRIES IN OUTCOMES STUDY



### TARGET POPULATIONS

- Unemployed and underemployed individuals
- Veterans
- College participants
- Trade Adjustment Assistance-eligible workers
- Graduating high school students
- Incumbent workers

### PARTNERSHIPS



- Employers
- Local Workforce Investment Boards



## Key Strategies

Grant funds supported programming in welding, machining, and mechatronics with new equipment, additional staff, and technology to enable simulated and online learning. The advanced manufacturing course (Certified Production Technician) served as the foundation for most of the welding, machining, and mechatronics certificate, diploma, and degree programs at each college. Though most colleges operated a two-semester course, Manchester Community College adopted an accelerated 24-week course prior to receiving the grant.

### Accelerated and Enhanced Learning Strategies

- Increased physical capacity.** The grant replicated the Advanced Manufacturing program at one college and expanded it at three others. Middlesex Community College implemented the two-semester program, which involved renovating space, purchasing equipment, adopting the curriculum, and hiring instructors. Manchester, Naugatuck Valley, and Three Rivers Community Colleges expanded their existing programs. Manchester Community College renovated space to add a second classroom and purchased equipment, thus doubling the size of its program. Naugatuck Valley Community College created two satellite programs, one in Waterbury and one in Danbury, to train incumbent workers. The college housed the satellite programs at local technical high schools, eliminating the need to purchase equipment or renovate college campus space. Because the high schools were used during the day, the
  - Stackable credentials and new certifications.** Program completers received a credential that prepared them for entry-level positions. Participants could return for an associate's degree, enabling them to ultimately earn a bachelor's degree at Central Connecticut State University. Program completers who continued their education could enroll in an Associate's Degree program in Science Machine Technology (Asnuntuck and Manchester Community Colleges) and an Associate's Degree program in Science Engineering Technology (Naugatuck Valley Community College).
- Manchester Community College created third-semester certificates in Computer Numerical Control Programming and Coordinate Measuring Machine Programming. Asnuntuck Community College designed third-semester certificates in five areas: Additive Manufacturing,

Advanced Machining Technology, Computer Assisted Design/Computer Aided Manufacturing Programming, Quality Inspection, and Metal Fabrication. The college selected the subject areas because there was strong demand for these skills in the local labor market, offering job opportunities for participants upon completion.

## Designing a Third Semester Certificate

Staff based each third-semester certificate on employer-identified exit competencies. Rather than writing a detailed curriculum that could become obsolete in the field before it is completed, program staff worked backwards from exit competencies to identify learning objectives and develop a course syllabus.

Once the credentials are approved by the state Board of Regents, completers will earn a second credential in one semester. Additionally, colleges planned to use the one-semester courses more broadly than a third semester. For example, incumbent workers could take a one-semester course to earn an additional credential.

## Persistence and Completion Strategies

- **Recruitment and retention coordinator.** The grant funded recruitment and retention coordinators at five Local Workforce Investment Boards. The coordinators were responsible for recruiting and assessing potential participants; providing information regarding the admissions and enrollment process, prior learning assessments, and career pathways; developing success plans for participants; and developing relationships with employers. In practice, college staff recruited most participants and developed relationships with employers. Instead, the coordinators primarily assessed applicants for funding eligibility. College

staff reverse-referred applicants to coordinators for possible tuition assistance.

- **Transition programs to for-credit status.** Colleges that operated non-credit programs transitioned programs to for credit to support articulation to Associate's or Bachelor's Degree programs in Science. In anticipation of the change, Manchester Community College, for example, moved its Advanced Manufacturing program from the Continuing Education Department to an academic division (Science, Technology, Engineering, and Mathematics). The college mapped the non-credit classes to for-credit ones aligned with the College of Technology, the community college consortium that provides articulation between Connecticut's 12 community colleges and their partner four-year universities.

## Employment-related Strategies

- **Internships.** All of the programs offered paid internships that often led to full-time employment. For example, participants in Naugatuck Valley Community College's Advanced Manufacturing program generally participated in two-day per week paid internships during the last eight weeks of the course. To qualify, the participants needed to have a B grade or better in all classes, a recommendation from their full-time instructor, and good attendance. Around 85 percent of the interns transitioned to a full-time job with the company with which they interned.
- **Job search supports.** Program staff at the colleges provided job search support and assistance to participants. For example, the program director at Manchester Community College had strong connections to employers in advanced manufacturing. If an employer had positions available, the director suggested that participants apply online for the available positions. He then provided the names of the participants, plus

a short write-up on each, to his contact at the employer.

## Partnerships

- **Workforce Investment Boards (WIBs).** To support participants and employers in the advanced manufacturing sector, five WIBs received grant funds to hire a recruitment and retention coordinator, who was responsible for recruiting and assessing potential participants and providing information on the admissions and enrollment process, credit for prior learning, and career pathways.
- **Employers.** The colleges in the consortium developed strong partnerships with employers that shaped the program curricula and provided internship and employment opportunities for participants. For example, Naugatuck Valley Community College has more than 200 employer partners. Asnuntuck Community College worked with more than 200 companies, including 114 Aerospace Components Manufacturer companies that use the college for incumbent worker training and provide internships to Advanced Manufacturing program participants.

## Implementation Successes and Challenges

Key grant successes:

- **Increased the capacity of and interest in advanced manufacturing programs.** The grantee added the program at one college and expanded its capacity at two colleges. The grantee launched a statewide marketing campaign, Make It Here, which program directors credit for generating interest in the programs and boosting enrollment. Many colleges had waitlists.
- **Colleges developed third-semester certificates and made all programs for-credit.** Asnuntuck Community College developed five third-semester certificates and Manchester Community College

developed two. Once the curricula are approved by the State Board of Regents (BOR)/Connecticut State Colleges and Universities, the certificates will be stackable with Advanced Manufacturing credentials across all colleges. All Advanced Manufacturing programs were for-credit and articulated to associates and bachelor's degrees.

Key grant challenges:

- **WIBs did not fulfill their expected role.** The grant-funded recruitment and retention coordinators aimed to identify and refer potential participants, as well as discuss training and career pathways more generally. According to college staff, the coordinators referred few potential participants. WIB staff reported that one key factor was the length of the program (two semesters at most colleges) and the limited number of start dates (fall and winter), which made it difficult for unemployed workers receiving Unemployment Insurance to enroll. Because the Unemployment Insurance program provides 26 weeks of benefits, recipients need to start training quickly and focus on shorter-term programs. College coordinators, instead, assessed potential participant eligibility for tuition support through the Workforce Innovation Opportunity Act.
- **Colleges struggled to implement two accelerated and enhanced learning activities.** The grantee planned to implement credit for prior learning and hybrid classes. Neither worked well for an Advanced Manufacturing program. There were two mechanisms to grant credit for prior learning: one was a review of a portfolio of work, which is not likely in manufacturing, and the other was a skills challenge, which can be difficult. For example, if a participant indicates he/she can operate a manual lathe, the program director could ask for a skills demonstration. However, there are no standard tests to

assess manufacturing skills and knowledge, so program directors needed to determine their evaluation method on a case-by-case basis. Program directors reported that few participants asked for skills assessments; those who did spent more time in skills practice and less time in the classroom, rather than skipping a class altogether. Though the consortium targeted a number of courses to migrate to a hybrid or online format, program directors found that few manufacturing courses were strictly lecture-based and thus amenable to the online portion of instruction.

- **Faculty capacity building was hindered by difficulty hiring full-time instructors.** Colleges expected to hire full-time instructors for their expanded programs. However, program directors reported difficulty hiring industry experts to teach courses for two reasons—private sector experts commanded higher salaries than college instructors earn and few had the requisite credentials to teach in a community college (a master’s degree at minimum). One college resolved this issue by hiring part-time education assistants on short-term contracts. Like adjunct faculty, they did not receive benefits, thus their

salaries were within the range that colleges could pay. They also did not require advanced degrees.

## Sustainability

- The Advanced Manufacturing and Welding programs will continue after the grant ends. Many programs, such as those operated by Asnuntuck Community College, predated the grant. Manchester and Naugatuck Valley Community Colleges used funds to expand their programs and hope to keep operating the larger number of courses and cohorts post-grant, though doing so will be contingent on state funding. Other grant-funded components—third semester curricula and for-credit programs—will continue after the grant.
- The grant-funded recruitment and retention coordinators at the WIBs will not continue. However, the colleges will continue to reverse-refer potentially eligible participants to the WIBs for tuition support. Strong community college-employer relationships will also continue post-grant. Employers provided, and will continue to offer, program design input, internships for participants, and jobs for graduates.<sup>9</sup>

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<sup>9</sup> Sustainability plans as of the spring 2017 site visit.

## Miami Dade College Consortium (Florida)

MIAMI DADE COLLEGE led the development and implementation of the Training for Manufactured Construction (TRAMCON). The Miami Dade College Consortium also included Seminole State College, Santa Fe Community College, and Polk State College.

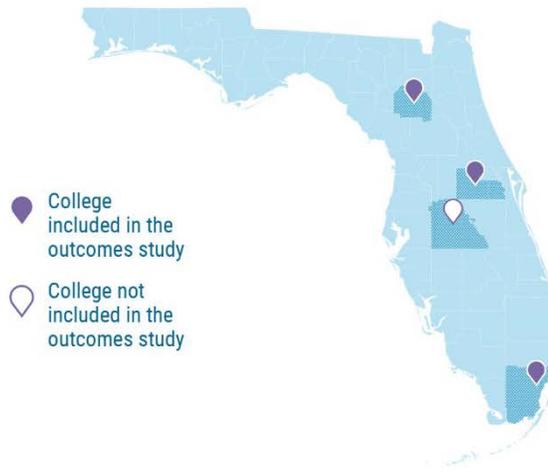
**Target Industry:** Manufactured construction is a sector of the building industry that involves manufacturing homes and parts of buildings in a facility and then assembling the products in their final locations. The consortium expected that the TRAMCON program would produce qualified workers for this rapidly growing sector in Florida and promote integration of the latest manufacturing technologies into the construction industry.

**Grant activities:** The consortium colleges used grant funds to develop the TRAMCON curriculum, hire staff and instructors, renovate construction labs, and purchase training equipment.

**Target populations and recruitment:**

- Participants had to be at least 18 years old, legally able to work in the United States, and have an interest in construction to be eligible for the program. At the outset of the grant, colleges required that applicants have a GED or high school diploma score at a ninth-grade level or higher on the TABE® (Tests of Basic Adult Education).
- College recruitment methods included job fairs, digital ads, print ads in magazines, direct mailers, and flyers posted around the community.
- Colleges also received referrals from their partners, namely a local construction company and local CareerSource Florida career centers.

**GEOGRAPHIC AREA SERVED**



**PROGRAM NAMES**

TRAMCON:  
Foundation  
Basic  
Advanced

**GRANT AMOUNT**

**\$9,977,296**

**LEAD COLLEGE**



**OTHER COLLEGES**

Polk State College  
Santa Fe College\*  
Seminole State College\*

*Participated in the outcomes study\**

**TARGET POPULATIONS**

- Trade Adjustment Assistance–certified individuals
- Nontraditional manufacturing participants
- Those who would benefit from occupational training
- Incumbent workers
- Veterans

**PARTNERSHIPS**



Each college had partnerships with local construction companies and CareerSource Florida career centers

**FOCUS INDUSTRY IN OUTCOMES STUDY**



ADVANCED WELDING



## Key Strategies

Miami Dade College consortium used grant funds to design and develop the TRAMCON curriculum and implement the program, hire staff and instructors, build construction labs, and purchase new training equipment.

### Accelerated and Enhanced Learning Strategies

**Curriculum Development.** The consortium developed the TRAMCON curriculum in partnership with the University of Florida. The curriculum borrowed heavily from the National Center for Construction Education & Research's credentialing program. As designed, TRAMCON offered four stackable course levels: Foundation, Basic, Advanced, and Supervisory.<sup>10</sup> The outcomes study focused only on the Foundation, Basic, and Advanced programs (see [Exhibit 5](#)).

- The Foundation level reflected TRAMCON's focus on integrating manufacturing and construction in offering industry-recognized credentials in both construction and

manufacturing. Miami Dade College added a life skills component.

- The Basic program focused on building systems and featured more hands-on learning than the Foundation program. Basic covered residential and commercial water supply systems, sanitary systems, roof framing (to teach use of protractor, triangle, measuring tools), and electrical systems. After completing the Basic level, participants had to complete 500 hours of on-the-job training before moving to Advanced.
- The Advanced level provided more training in carpentry, electrical systems, and plumbing.

<sup>10</sup> The outcomes study includes all but the Supervisory level because none of the colleges had implemented the course at the time the outcomes study began.

Exhibit 5. Stackable Credentials Associated with TRAMCON



Participants began with the Foundation course and progressed to more advanced levels in sequence. Participants had to show mastery of specific skills on a performance evaluation before advancing from one level to the next. The Foundation level typically took two to 12 weeks to complete; other levels courses ranged from 10 to 230 hours.

**Stackable Credentials.** At the end of each level, participants earned industry-recognized credentials. Foundation level completers earned the National Center for Construction Education & Research (NCCER) Core certification, and the manufacturing credential was the Manufacturing Skill Standards Council Certified Production Technician certification.

- The Foundation program also had a health and safety component, culminating in the OSHA 30 Construction Training certification.
- Basic level completers earned the NCCER Manufactured Construction Level 1 credential. Miami Dade College also incorporated NCCER Carpentry Level 1.
- Advanced level completers earned the NCCER Manufactured Construction Level 2 credential.

### Persistence and Completion Strategies

- **Completion specialists.** Each college had a completion specialist who focused on recruitment, retention and completion. The specialists met one-on-one with interested participants to develop individual learning plans. They monitored participants' progress

as they moved through the programs, offering referrals for academic and nonacademic supports as needed. The specialists also recruited participants.

- **Integrated academic support.** Some colleges integrated academic support staff into their TRAMCON programs. For example, at Santa Fe Community College, an instructor from the Adult Education Department attended the first few semesters of Foundation classes to provide reading and math assistance. This instructor was available for tutoring and assistance outside of class. Seminole State College provided an instructor to serve as a lab partner for a participant with special needs.
- **Articulation.** TRAMCON programs were non-credit, but the colleges created articulation agreements so that TRAMCON coursework or industry credentials to articulate for credit in their degree programs. At Miami-Dade College, for example, TRAMCON coursework articulated for up to 17 credits in its construction and architecture degree programs. At Seminole State College, TRAMCON credentials articulated for credit in the college's Construction Management associate's degree program, for a maximum of 11 potential credits. At Santa Fe Community College, participants could enroll in the School of Construction's apprenticeship program after they completed the NCCER Core curriculum.

### Employment-related Strategies

- **Hands-on training in work-like environment.** Each college used grant funds to create or equip construction labs, known as Transformative Learning Centers, for hands-on learning. The Transformative Learning Centers varied in size. At Miami Dade and Seminole State Colleges, the Centers were big enough for participants to build small structures, such as doghouses, whereas Santa Fe Community College's Center was big enough to construct a full-

size house. Santa Fe Community and Seminole State Colleges upgraded existing labs, whereas Miami Dade College renovated space for a new lab. Each college used grant funds to purchase equipment for its Center, including computer numeric control routers, 3-D printers, laser engravers, and rolling mills. In addition, Santa Fe Community College purchased a forklift, scissor lift, table saw, and woodworking tools. Seminole State College also built electrical training systems using grant funding.

- **Employer connections.** Miami Dade College developed an employer relationship in which the employer (Coastal Tishman, a local construction company) agreed to hire all participants who successfully completed TRAMCON training. The other colleges generally had a portfolio of employers that periodically hired TRAMCON completers. TRAMCON provided training in manufactured construction. However, the skills are transferrable, and colleges generally focused on marketing the program more broadly to employers in the traditional construction industry.

### Implementation Successes and Challenges

Key grant successes:

- **Recruited and enrolled nontraditional students.** The TRAMCOM eligibility requirements, such as the required TABE score, were lower than many of the colleges' other programs. This enabled colleges to recruit nontraditional students, such as those out of school for a period of time or incumbent workers, who were interested in TRAMCON for its hands-on training rather than a degree or transfer to a university.
- **Strengthened relationship between campus stakeholders.** The Santa Fe Community College instructors, in particular, reported that the grant strengthened the School of Construction's relationship with

the college administration, specifically the grants and finance departments. Program staff noted that the TRAMCON experience posited the School of Construction well for another grant.

Key grant challenges:

- **Fewer jobs in manufactured construction than expected.** At the time of grant application, the consortium identified an increasing demand for homes and buildings that used manufactured construction and a shortage of trained workers. However, demand for manufactured construction did not materialize in the consortium college areas for a variety of reasons. In the City of Miami (Miami Dade College), for example, zoning rules did not allow construction of manufactured homes because of the risk of hurricane damage to the structures. Though demand for manufactured construction was lacking, demand for traditional construction was very strong across the state, so the consortium colleges marketed the many skills that TRAMCON completers gained to that industry instead.
- **Lack of flexibility in adapting program to changing state and local demands.** In developing the TRAMCON curriculum for the consortium, the University of Florida incorporated elements from NCCER and MSSC credentials. Because the curricula aligned with these credentials, colleges had limited ability to adapt the program. Instructors reported it difficult to tailor the

curriculum to the needs of local employers. For example, faced with little local demand for manufactured construction skills, the colleges needed to adapt the curriculum to train participants for traditional construction jobs. Colleges also found that some of the credentials offered through TRAMCON, such as the NCCER Core certification, were not highly valued in their local areas. Unable to eliminate the curricula associated with these credentials or make widespread curricular changes, instructors deemphasized sections associated with the less-valued credentials.

- **Training equipment not fully utilized.** College staff purchased training equipment early in the grant period although they had no explicit plan to integrate it into the TRAMCON curriculum. In addition, some of the equipment, such as the computer numeric control routers, was highly complex, requiring extensive training.

### Sustainability

Each college in the consortium planned to retain some aspects of the grant-funded program. Miami Dade College staff planned to create a School of Construction that would offer credentialing courses to participants and include TRAMCON. Seminole State College staff reported that they plan to expand access to their construction lab beyond TRAMCON participants. Santa Fe Community College instructors considered creating a shorter version of TRAMCON Foundation course designed for entry-level jobs in the traditional construction industry.<sup>11</sup>

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<sup>11</sup> Sustainability plans as of the spring 2017 site visit.

# SOUTH CENTRAL COLLEGE CONSORTIUM (MINNESOTA)

## South Central College Consortium (Minnesota)

SOUTH CENTRAL COLLEGE led the development and implementation of career pathways in advanced manufacturing. The consortium comprised 12 colleges across Minnesota and marked the first time the colleges worked together. Each college developed a career pathway that incorporated the Certified Production Technician credential as an entry-level certificate that transferred to more advanced diploma and degree programs.

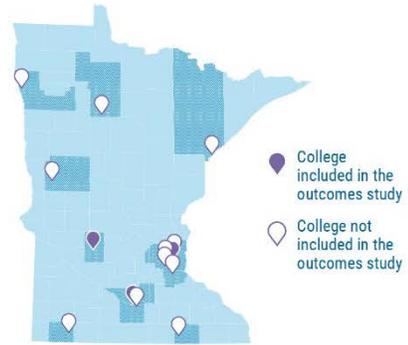
**Target Industry:** Advanced manufacturing uses innovative information, automation, and computation technologies to create new or existing products. It includes welding, machining, and mechatronics.

**Grant activities:** The consortium primarily used grant funds to hire staff, purchase lab equipment, and develop a mediated telepresence classroom. The outcomes study focused on the Certified Production Technician and Welding programs.

**Target populations and recruitment:**

- Both programs had the same target populations: unemployed, underemployed, or Trade Adjustment Assistance-eligible individuals; incumbent or dislocated workers; veterans; and underrepresented groups.
- The colleges worked with local workforce centers and nonprofit organizations to recruit participants. They also marketed the programs to high school students at career events and through social media.
- Program staff worked with employers to develop customized trainings for incumbent workers.

**GEOGRAPHIC AREA SERVED**



**PROGRAM NAMES**

Certified Production Technician program  
Welding program

**GRANT AMOUNT**

**\$14,999,982**

**LEAD COLLEGE**



**OTHER COLLEGES**

- Century College
- Dakota County Technical College
- Lake Superior College
- Minneapolis Community and Technical College
- Minnesota State Community and Technical College
- Minnesota West Community and Technical College
- Normandale Community College
- Northland Community and Technical College
- Ridgewater College\*
- Riverland Community College
- St. Paul College\*

*Participated in the outcomes study\**

**FOCUS INDUSTRIES IN OUTCOMES STUDY**



ADVANCED  
MANUFACTURING



WELDING

**TARGET POPULATIONS**

- Unemployed or underemployed individuals
- Trade Adjustment Assistance-eligible individuals
- Incumbent workers
- Dislocated workers
- Veterans
- Underrepresented groups in the industry (women, immigrants, people of color)

**PARTNERSHIPS**



Local Workforce Investment Boards, the Minnesota Department of Employment and Economic Development, advanced manufacturing employers, and employer associations.



## Key Strategies

The consortium used grant funding to support programs in welding, machining, and mechatronics with new equipment, additional staff, and technology to enable simulated and online learning. The grant-funded Certified Production Technician course served as the foundation for most of the welding, machining, and mechatronics certificates, diplomas, and degree programs that each college developed or enhanced.

### Accelerated and Enhanced Learning Strategies

- Technology-based learning.** Consortium members purchased new lab equipment and updated their welding and machining facilities. Examples included new computer numerical control machines, lathes, and welders for welding labs; robotics equipment and suitcase trainers for mechatronics labs; and virtual welders and 3-D printers for machining and mechatronics labs. Instructors used the portable suitcase trainers to give incumbent workers convenient, hands-on practice at their place of employment. Potential participants used the virtual welders to experience welding and participants used them to practice welding skills they were having trouble mastering.
- Online learning.** The colleges developed an online mediated telepresence classroom, called +Connect, which allowed participants to attend Certified Production Technician classes remotely. +Connect targeted incumbent workers and those in apprenticeship or dual-training programs who did not have time to travel to or attend traditional classes. Employers participating in

the +Connect program could select courses for their employees.

- New credential in career pathway.** The for-credit Certified Production Technician program comprised four core courses: Quality Practices, Safety Awareness, Maintenance Awareness, and Manufacturing Process and Production (see [Exhibit 6](#)). Each college developed its own Certified Production Technician curriculum that aligned with Manufacturing Skill Standards Council (MSSC) standards. Most colleges required participants to enroll in the Certified Production Technician courses before they could continue to certificate, degree, or diploma programs in advanced manufacturing. After completing the four Certified Production Technician courses, participants could either take the MSSC certification test or receive a college-issued Certified Production Technician certificate. Participants who completed the Certified Production Technician program could transfer their credits and continue on to other certificate, diploma, or degree options in welding, machining, and mechatronics at any college in the consortium or seek entry-level employment in manufacturing.

**Exhibit 6. Summary of Certified Production Technician Program**



**Persistence and Completion Strategies**

- **Proactive advising.** Each college hired an academic advisor to help participants navigate and progress in their programs. The advisors worked closely with participants at risk of not completing the program. The advisors monitored class attendance, intervened with guidance and support services, interpreted the results of academic assessments, and addressed personal and financial issues that could derail participants.
- **Referrals to other support services.** As needed, academic advisors referred participants to additional academic and personal support services available at the college or through local nonprofit organizations.

**Employment-Related Strategies**

- **Facility tours and employer presentations.** At many of the colleges, Welding program participants received exposure to local employers through facility tours or employer presentations.
- **Job search and placement assistance.** Academic advisors at each college assisted with internship search and placement, resume and interview preparation, and job placement.

**Partnerships**

The consortium emphasized the importance of engaging a variety of employers and associations to create and redesign

manufacturing programs at partner colleges, to recruit incumbent workers for +Connect, and to create apprenticeship and internship opportunities for enrolled students. Faculty often used their existing networks with local industries to recruit advisory board members. Representatives from these employers frequently met with students, provided paid and unpaid internships, and hired program graduates.

Minnesota’s state legislature implemented a state-wide program that provides matched funding for industry donations to community colleges. Each college participating in the outcomes study received equipment donations from the industry and matched funds from the state, which were used to purchase additional equipment for the grant-funded programs. In addition to the donated equipment, all three colleges also received donated materials (such as scrap metal and salvaged parts) from local businesses. Students and instructors used these materials as practice material or as project components.

**Implementation Successes and Challenges**

Key grant successes:

- **With their new equipment, consortium members added capacity and expanded enrollment in their training programs.** In addition to grant-funded equipment purchases, industry and employer partners donated equipment and

## SOUTH CENTRAL COLLEGE CONSORTIUM (MINNESOTA)

materials. These donations were matched by state-leveraged funding, which maximized grant-funded and employer-donated equipment.

- **Through the grant, colleges added credentials and developed career pathways with multiple entry and exit points.** All but one consortium member added the Certified Production Technician curriculum and worked to integrate a combination of other advanced manufacturing credentials, at multiple levels, into their existing training programs.

Key grant challenges:

- **Building the Certified Production Technician curriculum into existing manufacturing programs.** The consortium wrote and submitted the grant application during the summer with limited input from faculty and no input from employers. Initially, many faculty and employers were unaware of the Certified Production Technician certificate and the need to change existing Advanced Manufacturing program curricula to incorporate it. Because the new certificate program was for-credit and there were a limited number of credits required for an associate's degree program, faculty had to eliminate some courses to ensure that their programs were not above state-imposed diploma and degree program credit caps. Grant leadership worked with faculty at each college to determine how to implement

curricula changes to incorporate the new certificate. Ultimately, the relevant oversight bodies at all but one consortium partner approved the new curricula with the Certified Production Technician certificate embedded.

- **Hiring for grant-funded positions.** Minnesota State Colleges and Universities' System Office had to approve all job descriptions for grant-funded hires. Each college had to submit a separate job description although the positions were the same throughout the consortium. The System Office did not approve the initial program coordinator job description, which delayed hiring processes across the consortium.

### Sustainability

Consortium members planned to maintain their advanced manufacturing career pathways, including the entry-level Certified Production Technician certificate. Moreover, several consortium members planned to implement similar pathways models in other trade programs. Consortium colleges expected to maintain instructors after the grant period ended, using other funding sources. The intrusive advising model was popular among college staff and leadership. However, most of the consortium colleges did not expect to sustain the role, given the costs associated with the low student-to-advisor ratio.<sup>12</sup>

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<sup>12</sup> Sustainability plans as of the spring 2017 site visit.

## Washburn University Consortium (Kansas)

WASHBURN UNIVERSITY led the development and implementation of the Kansas Technical Re/training Among Industry-targeted Networks (KanTRAIN). The consortium included six other colleges serving the metropolitan and suburban areas of Topeka, Wichita, and Garden City, Kansas.

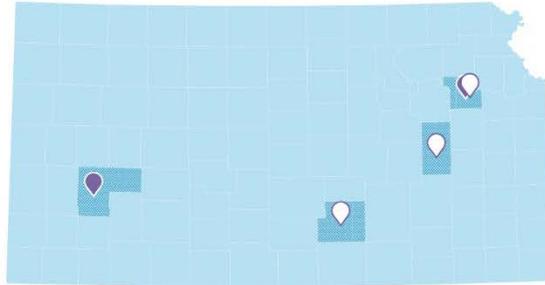
**Target Industries:** Health care, advanced manufacturing, welding, industrial maintenance, aerospace, and climate and energy technology.

**Grant activities:** The consortium used grant funds to develop a variety of training programs. The outcomes study focused on the Advanced Welding program at Garden City Community College and the Practical Nursing and Emergency Medical Technician (EMT) programs at Washburn Institute of Technology. For these programs, the colleges focused on facility renovation, development of a new curriculum, staffing, program expansion, and data integration.

**Target populations and recruitment:**

- Each of the programs targeted different populations (see text box).
- The Advanced Welding program recruited widely and accepted out-of-state participants, housing them for the program’s duration.
- Applicants to the Practical Nursing program had to have a Certified Medical Assistant or Certified Nursing Assistant license and one year of general education courses.
- Although anyone 18 years or older was eligible for the EMT program, it focused on high school seniors interested in health care.

**GEOGRAPHIC AREA SERVED**



College included in the outcomes study

College not included in the outcomes study

**PROGRAM NAMES**

Advanced Welding  
Practical Nursing  
Emergency Medical Technician

**GRANT AMOUNT**

**\$11,997,957**

**LEAD COLLEGE**



**OTHER COLLEGES**

Washburn Institute of Technology\*  
Garden City Community College\*  
WSU Tech  
Flint Hills Technical College

*Participated in the outcomes study\**

**FOCUS INDUSTRIES IN OUTCOMES STUDY**



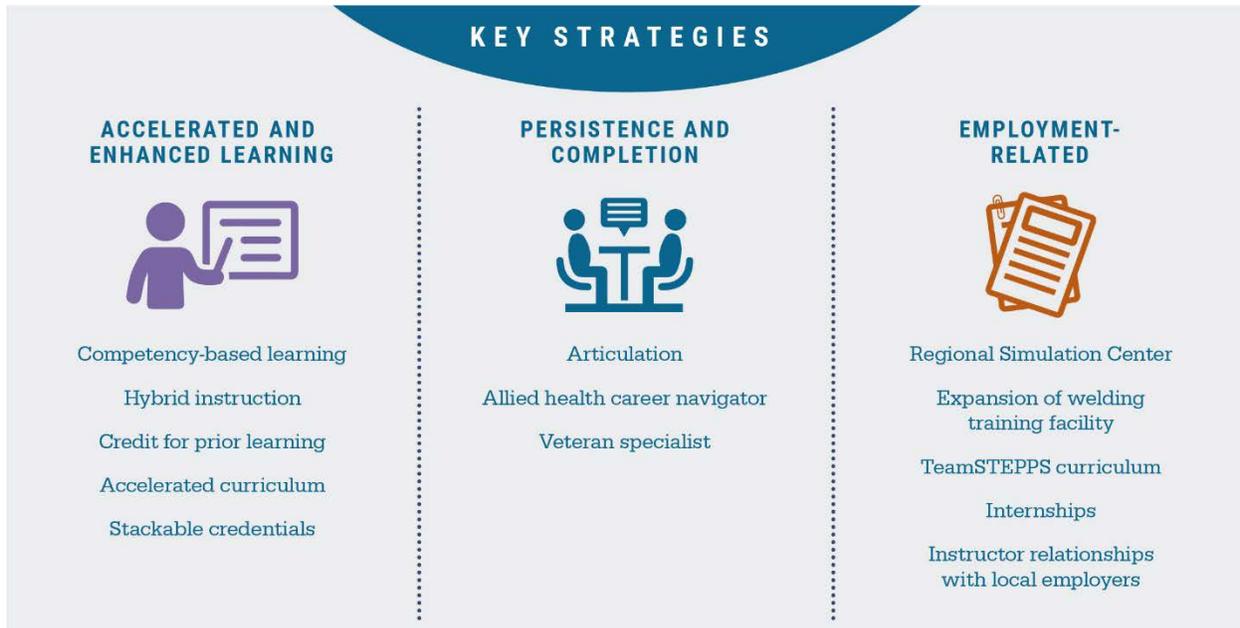
**TARGET POPULATIONS**

- Veterans and unemployed or underemployed individuals (Advanced Welding)
- Graduates of other nursing programs (Practical Nursing)
- High school graduates (EMT)

**PARTNERSHIPS**



- Kansas Board of Regents
- Kansas Department of Education
- Regional Workforce Boards



## Key Strategies

The consortium used the grant to support physical capacity improvements, including the development of a Regional Simulation Center at Washburn Institute of Technology and a welding training facility at Garden City Community College; curricular changes and additions; and new staff, including a veteran specialist and allied health career navigator.

### Accelerated and Enhanced Learning Strategies

- **Competency-based learning.** The Practical Nursing program was competency-based, meaning that participants passed courses by correctly demonstrating skills, such as giving injections or interpreting charts.
- **Hybrid instruction.** The Practical Nursing and EMT programs used a combination of classroom and online learning strategies. Both programs also used the Regional Simulation Center to help participants practice and hone their skills. Instructors assessed participants via online tests that were similar in structure and content to nationwide licensing exams.
- **Credit for prior learning.** The consortium’s veteran specialist helped establish prior learning credit for veterans by aligning skills acquired in the military with Kansas Board of Regents’ training program requirements.
- **Accelerated curriculum.** Garden City Community College shortened the Advanced

Welding program curriculum from two semesters to 18 weeks. Instructors thought that the one-year program was too long and yet did not have enough practice time to prepare students for employment, while they had observed shorter training programs that were effective. The shorter format addressed employer demand for welders; previously, local employers had hired participants prior to program completion, such as the demand for welders. Staff added more welding practice hours to increase hands-on training, and increased the frequency and types of tests so that students could earn more American Welding Society (AWS) certifications.

- **Stackable credentials.** Two advanced welding instructors were AWS-licensed certifiers, which enabled participants to earn AWS credentials. The program culminated in a National Center for Construction Education and Research (NCCER) certification in welding.

**Exhibit 7. KanTRAIN's Career Pathways**



**Persistence and Completion Strategies**

- **Articulation.** The consortium developed an articulation agreement between the Washburn Institute of Technology's Practical Nurse program and Washburn University's Bachelor's Degree in Nursing. Per the agreement, participants who passed the Licensed Practical Nurse exam received 15 credits toward the degree. The credit transfer enabled participants to take one fewer course each semester, thus providing flexibility to work and go to school concurrently. Washburn Institute of Technology also had an articulation agreement with Garden City Community College. Completers of the Washburn Institute of Technology EMT program could receive credit toward Garden City Community College's more advanced Paramedic Training program.
- **Allied health career navigator.** Grant funds supported an allied health career navigator, who provided services to all allied health program participants at Washburn Institute of Technology. The career navigator conducted in-class presentations to review each program's requirements, length, and career pathway; assessed participants' social and academic supports; provided referrals to services as needed; and offered one-on-one career and educational advising. The career navigator proactively distributed a list of commonly

needed participant supports, such as assistance with study skills or test anxiety and referrals food pantries.

- **Veteran specialist.** The consortium hired a veteran specialist who encouraged soon-to-be discharged military members to apply to any of the grant-supported programs of study. The specialist provided enrollment support, such as help with applications, financial aid calculations, training alignment assessments, or emotional support and encouragement.

**Employment-related Strategies**

- **Regional Simulation Center.** The largest single grant investment was development of the Regional Simulation Center, a state-of-the-art medical simulation training facility that allowed students to practice their skills on actors or high-fidelity dummies in hospital rooms, surgical theaters, and rehabilitation facilities. Program participants could practice skills in a physical environment, thus addressing a need identified by local employers—that prospective employees needed experience practicing work skills during their training programs.
- **Expansion of welding training facility.** Garden City Community College used grant funds to renovate a building and purchase additional equipment to construct a welding lab. With the grant-funded additions, the facility had two dozen welding bays, ventilation equipment, metal sheet cutters,

and a classroom. With the expanded facility, the college doubled the capacity of each welding class from 12 to 24 students.

- **TeamSTEPPS curriculum.** In response to local employers' requests that all allied health program participants be prepared to work in a multi-disciplinary environment, Washburn Institute of Technology used grant funds to purchase and implement a TeamSTEPPS (Team Strategies and Tools to Enhance Performance and Patient Safety) training. TeamSTEPPS taught healthcare communication strategies and helped participants understand the roles and responsibilities of various health care providers with whom they may work after completing training.
- **Internships.** Participants in the Practical Nursing program completed internships in several types of health care settings, such as hospitals, rehabilitation centers, and nursing homes.
- **Instructor relationships with local employers.** Instructors in the Practical Nursing and Advanced Welding programs developed relationships with local employers and used those relationships to help participants locate employment.
- **Alternative employment guidance.** The Advanced Welding program expansion coincided with an unforeseen contraction in local demand for welders related to a decrease in the price of oil. Program staff encouraged completers to explore opportunities in other sectors, such as the meatpacking industry, or relocate to stronger oil and gas markets where demand for welders remained high.

## Cap-breaker Funding Strategy

Washburn University was one of seven Round 4 grantees that received funding at a level that exceeded DOL funding cap guidelines for activities including improvement of statewide data collection, integration, and use.

**Data integration.** Washburn University developed data integration agreements with the Kansas Board of Regents, the Kansas Department of Labor, and the Kansas State Department of Education. This allowed Washburn University to link participant records from grant-supported programs to K-12 records (for participants who attended school in Kansas) and postsecondary records (for participants who attended college or university in the state), enabling the Board of Regents to track participants' trajectories and progress across various education systems throughout the state.

## Partnerships

The consortium worked with KANSASWORKS, the state's public workforce assistance system administered by the Department of Commerce. Local workforce centers agreed to refer potential participants for the consortium's training programs and to provide financial support to those who were eligible for training funding under the Workforce Innovation and Opportunity Act. In practice, the workforce centers referred few eligible applicants. The career navigator also signed up participants on the KANSASWORKS web-based job-matching and labor market information system where job seekers post resumes and employers post job openings.

## Implementation Successes and Challenges

Key grant successes:

- **An experienced grant director ensured colleges implemented grant activities as planned.** Because the director oversaw previous round grants, they were able to leverage preexisting relationships and management practices to initiate grant activities quickly. These included the adoption of the TeamSTEPPS training, hiring of an instructor and recruiter, development of credit for prior learning for veterans and practical nursing students entering a Bachelor's of Science in Nursing program, data integration, and developing the Regional Simulation Center training facility.
- **The Regional Simulation Center is built and operational.** The grant provided some, but not all, of the funds to construct the Simulation Center. The president of Washburn Institute of Technology leveraged grant funds to raise the remaining funds needed. The Regional Simulation Center is the only medical simulation center in the region and provides training and skill-building experiences in health care that no other institution in the state can offer.

Key grant challenges:

- **Recruitment and employability.** The Welding program was unable to recruit sufficiently to meet higher enrollment targets that accompanied the addition of an instructor. A downturn in the oil and gas industry affected the employability of

welding graduates. At the time consortium members applied for the grant, the oil and gas industry employed a large number of welders, and the program had a wait list. Concurrent with expansion of the welding program's capacity, the price of oil plummeted and the industry cut back on new construction and expansion projects, thus reducing demand for welders. The program tried to improve graduates' employment outcomes by encouraging them to explore welding opportunities outside of the oil and gas industry or relocate to stronger oil and gas markets, such as North Dakota. Program staff facilitated connections between program graduates and other local companies that employ welders.

## Sustainability

The consortium members intended to sustain most of the grant-supported activities. Grant investments, such as the TeamSTEPPS, will remain a feature of allied health programs. The Regional Simulation Center will need to replace grant funds to maintain staffing and support other ongoing operating costs. Washburn Institute of Technology was considering different funding streams, including contracting with local hospitals and military bases to utilize the Center for continuing education credits and training. The allied health career navigator and veteran specialist positions will end after the grant, but the credit for prior learning alignments will continue. The grant's investments in welding equipment and facilities will continue after the grant ends.<sup>13</sup>

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<sup>13</sup> Sustainability plans as of the spring 2017 site visit.