NORTH CAROLINA BOARD OF POSTSECONDARY EDUCATION CREDENTIALS FINAL REPORT

PSEC

North Carolina Board of
Postsecondary Education Credentials

NORTH CAROLINA BOARD OF POSTSECONDARY CREDENTIALS MEMBERS

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North Carolina Board of Postsecondary Education Credentials

TABLE OF CONTENTS

EXECUTIVE SUMMARY

The North Carolina Board of Postsecondary Education Credentials (PSEC) set out to review and make recommendations for the development of a statewide system of postsecondary education with an emphasis on evaluating and scaling industry-valued postsecondary education credentials. Working with member organizations/institutions and using research provided by RTI International, the Board has developed a series of recommendations for postsecondary education credentials in North Carolina. Below is a summary of the Board's recommendations to ensure that all North Carolinians have access to high-quality, industry-valued postsecondary education credentials.

RECOMMENDATIONS IN BRIEF

1. **Target: Support the statewide postsecondary attainment goal set by myFutureNC.**

   Key Steps:

   - Review the recommendations of myFutureNC, which used labor market data and stakeholder engagement to determine a statewide postsecondary attainment goal, including a numeric and measurable metric for attainment as well as an anticipated end date.
   - Partner with myFutureNC to determine which types of degrees, certificates, certifications, etc. will count toward the goal and how progress will be tracked.
   - Assess alignment of the statewide goal with system-level efforts toward developing and reaching an attainment goal.
   - Consider myFutureNC's recommendations for which agency or system should be named to monitor and publicize the statewide goal.

2. **Alignment: Establish an NC-specific credentials-of-value list.**

   Key Steps:

   - Develop a list of high-value credentials and programs aligned with industries and/or occupations determined to be high priority by the governor's office, state workforce and education entities, and regional workforce and education organizations.
   - Choose the types of credentials to be included in the list, such as certifications, certificates, degrees, and/or licenses.
   - Assess the value of the national database of credentials being compiled by the Credential Engine to help populate the list with industry-valued credentials that are transferrable across state lines.
   - Maintain and manage changes to the list each year (should be managed by the NC Community College System in partnership with the Department of Commerce).

3. **Incentives: Incentivize credentials aligned with in-demand jobs.**

   Key Steps:

   - Offer monetary incentives for participation in programs leading to credentials of value and/or completion of credentials of value.
   - Determine whether the incentives will be student-, institution-, and/or employer focused. Examples include student scholarships or other monetary incentives (e.g., partial tuition rebates) for reporting third-party credentials, additional funds for institutions, or training funds to employers that produce employees with credentials of value.

- Provide resources that enable institutions or participants to report data on participation and completion, which will be used to track the incentive program's reach and impacts.
- Identify an agency or system to monitor and implement the incentive program. Potential leaders include the NC Community College System for an incentive system focused on institutions and students or the NC Department of Commerce for a program focused on employers.
- Recommend funding to develop, implement, and monitor the incentive program.

4. Dissemination: Market program quality and career path alignment to students.

Key Steps:

- Endorse the NC Department of Commerce's effort to develop a user-friendly, interactive web platform (nccareers.org) to share program-specific information on related career pathways (including related credentials), employment supply–demand, and return-on-investment metrics.
- Publicize short-term continuing education programs aligned with credentials of value and stackable credential opportunities across both short-term and degree programs.
- Incorporate 2- and 4-year programs by highlighting the career-related skills related to learning outcomes for each field of study.
- Use the online platform to support ongoing program improvement efforts.
- Recommend staff and funding to manage the online platform being developed by the NC Department of Commerce, implement a marketing campaign around the portal, and (during the development process) scope out specific uses of the portal by career advisors in NCWorks, community colleges, universities, and other workforce and education partners.

5. Data: Collect data on certifications.

Key Steps:

- Support the NC Community College System's efforts to acquire certification data through a partnership with the National Student Clearinghouse.
- Scope options for a centralized reporting system for student certification attempts and completions at 2-year institutions that already collect this data.
- Follow guidelines from the Data Sharing Project on what data elements should be collected by education systems and certifying bodies to maximize the possibility of data sharing and share these guidelines with institutions. Where data sharing may not be possible, develop work-arounds such as providing resources for the agencies that keep the data to run analyses for other agencies.

6. Military Credentials: Expand the work related to military credit for prior learning.

Key Steps:

- Continue to advance an online web portal (joint effort between the UNC System Office and the NC Community College System set to launch in fall 2019).
- Support and collaborate with NC Independent Colleges and Universities on related efforts for military credit for prior learning.
- Develop a process for consistent transcripts.
- Create bridge and gap courses to expand course credits awarded for military experience.
- Recommend staff and funding to expand and support military credit for prior learning work within the NC Community College System.

INTRODUCTION

BACKGROUND AND CONTEXT FOR THE NC BOARD OF POSTSECONDARY EDUCATION CREDENTIALS

The North Carolina Board of Postsecondary Education Credentials (PSEC) was established in 2017 by the NC General Assembly to review and make recommendations for the development of a statewide system of postsecondary education with an emphasis on evaluating and scaling industry-valued postsecondary education credentials. The Board was charged with ensuring that appropriate courses of study and vocational training are available to North Carolinians.

To meet the legislative vision, the Board of PSEC agreed to achieve the following goals:

1. Assess the hiring challenges faced by State employers due to lack of education, certification or training of applicants.
2. Assess the ability of State residents to access industry-valued credentials.
3. Identify alternative ways in which people gain workforce skills and experience that are not represented by 4-year or 2-year degrees.
4. Create a plan to ensure that employer-valued credentials are readily available in the geographic locations and industry sectors needed.
5. Create a plan for monitoring the value of postsecondary nondegree credentials.

The Board produced actionable recommendations on the following:

1. Establishment of a state goal to ensure that the appropriate percentage of the State's adult citizens hold degrees, certificates, or other high-quality postsecondary credentials.
2. Identification of guidelines to ensure value and quality of a nondegree.
3. Understanding of the various levels of skill and knowledge credentials signify and how to accurately convey that information to employers, students and trainees, and providers of postsecondary education.

KEY TERMS AND DEFINITIONS

Certifications refer to *industry-recognized certifications* or *industry-based certifications* not issued by postsecondary institutions. Industry-recognized and industry-based certifications are developed and offered by third-party, non-education organizations associated with specific industries.

> Examples include the Certificate in Medical Assisting (CMA), Cisco Certified Entry Networking Technician, National Institute for Automotive Service Excellence (ASE) Certification, Manufacturing Skill Standards Council (MSSC) Certified Production Technician, and C++ Associate Programmer Certification.

Certificates refer to credit or non-credit-bearing certificates issued by postsecondary institutions. Programs leading to certificates may also prepare students for certifications. Certificate programs are offered mainly by community colleges and for-profit schools, although some 4-year public and private nonprofit institutions offer them as well. Certificate programs vary in length, including short-term certificate programs that last for less than a year, medium-term certificate programs that last from 1 to 2 years, and longer-term programs that take from 2 to 4 years to complete.

> Examples include human resources management certificates; hydraulics, engineering, and transmissions certificates; cybersecurity support certificates; and database programming certificates.

Skills-based short courses refer to intensive courses that last for less than 1 year and focus solely on preparing students for jobs in specific fields. These courses are offered by industry and by postsecondary institutions (including workforce continuing education). They can stand on their own or be incorporated into other credentialing programs (such as certificate programs). At the end of these courses, students may earn a credential (such as a short-term certificate or a certification) or compile a portfolio. Some of these courses, including coding boot camps, offer job-placement programs or job-placement guarantees.

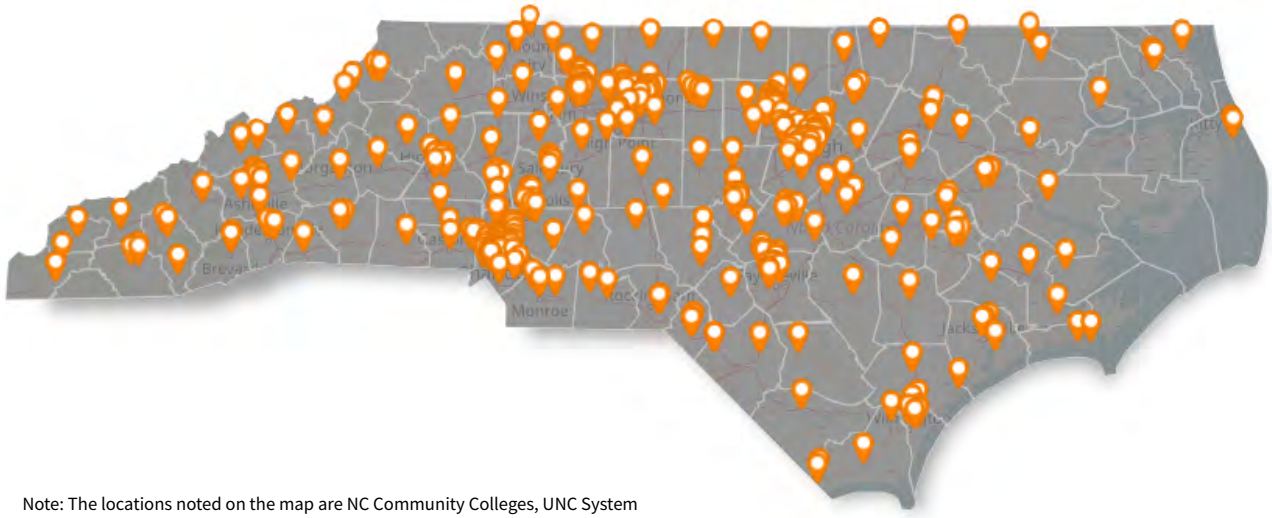
Credentials of value refer to a variety of academic and/or industry-recognized credentials used to designate programs of high value to the workforce pipeline. *Value* is often defined in terms of labor market value, with the attainment of a job in the field and/or increased wages defining value; however, the Lumina Foundation and Georgetown University Center on Education and the Workforce have also recognized that states sometimes consider credentials that enable students to be employed in fields that may not pay well but are valuable to society (e.g., first responders or child care teachers). These credentials are presented as a list to be referenced by state agencies and can apply to secondary, postsecondary, or both levels. Generally, the list focuses on third-party certifications, but it may also include certificates and degrees offered by postsecondary institutions, licenses, and/or programs leading to credentials.

Postsecondary attainment goal refers to a state-level target for the number or percentage of the working population with a postsecondary credential. The types of credentials counted toward the goal vary by state and may include 4-year degrees, 2-year degrees, certificates, and/or certifications. The goal may also be specified to include only high-quality credentials (with quality being defined by the state) or a certain age group within the working population.

REVIEW OF FINDINGS/INFORMATION

ACCESS TO POSTSECONDARY EDUCATION CREDENTIALS IN NORTH CAROLINA

North Carolinians have access to a wide variety of institutions that offer industry-valued credentials. Through offerings at NC Community Colleges, UNC Colleges, NC Independent Colleges and Universities, and NC Proprietary Schools, North Carolinians have access to course work within close proximity to their homes.



Note: The locations noted on the map are NC Community Colleges, UNC System Schools, NC Independent Colleges and Universities, and NC Proprietary Schools. For the UNC System Schools, this map notes only the location of the main campus and does not include satellite or other alternate campuses and locations.

MILITARY CREDIT FOR PRIOR LEARNING

The NC Community College System, in partnership with the University of North Carolina System Office, is working on a project to identify, develop, and support methods to maximize consistent award of college credits for military experience. NC Independent Colleges and Universities campuses offer programs on military bases for direct credit and also use the American Council on Education's CREDIT Recommendation Service (CREDIT®) to provide academic credit for workplace learning, including military experience. As one of the top four states in the country in the number of residents who are active-duty or military reservists, it is important for North Carolina to continue this work and make connections to military experience that translate to courses or some type of credential that aligns with progress toward a degree or credential of value in North Carolina. The Board includes information in the recommendations section related to continuing the work already underway for military credit for prior learning.

RELATED PROGRAMS IN NORTH CAROLINA

North Carolina is already undertaking numerous efforts and activities to increase attainment of quality credentials, and specifically certifications, across the state. These activities include, but are not limited to,

- **MyFutureNC** – A statewide commission focused on creating a multiyear educational attainment plan. The commission recommends the postsecondary credential attainment goal of 2 million 25- to 44-year-olds (about two-thirds of the projected state population in that age range) with a high-quality credential or postsecondary degree by 2030.
- **NCCareers.org** – A web portal that provides career counseling and job search tools such as data on employment projections and credential requirements by occupation.
- **National Student Clearinghouse Data Pipeline Project** – A partnership of industry associations and colleges, including the NC Community College System, and the National Student Clearinghouse, the Manufacturing Institute, and the Census Bureau to match student education and training data to certification attainment data.
- **Credential Engine** – An online search engine that shares information about available credentials of all types.
- **Prior Learning Initiative** – The NC Community College System is working on a policy to standardize how college credit is awarded for prior learning. Prior learning includes industry-recognized certifications, apprenticeship journeyman's cards, out-of-state institution credit, international higher education credit, challenge exams, AP exams, high school career and technical education (CTE) courses, work and life experiences, and many continuing education courses.
- **We Are Generation T** – A partnership with the Lowes Foundation to drive 3 million students to trade programs at community colleges across the country, particularly in the construction industry.
- **Adult Promise/Finish First Implementation** – An effort in which the NC Community College System is working with Wake Technical Community College to replicate its Finish First tool, which scans college transcript data to identify which credentials a student is close to earning. Wake Tech has received grant funds from the Belk Endowment to implement the tool at each of the 58 community colleges
- **Truck Driver Scholarship** – A scholarship being developed by the NC Community College System for individuals interested in CDL training at an NC community college.
- **Ventanilla/Mexican Consulate's Window on Education** – A partnership between the Mexican Consulate, NC State University, and the NC Community College System to distribute higher education information and career pathway information to individuals who visit the consulate.

Outside of program credentials through postsecondary or state agencies, industry-recognized credentials that are awarded to North Carolinians are difficult to track. These are industry-specific certificates or licenses offered by third-party industry associations. It is difficult to track how many and where in North Carolina residents have received these credentials because they are not centrally reported to a state agency.

Our best estimate of the number of these industry-recognized credentials available is nearly 7,000, which comes from an inventory of credentials aligned with CTE programs. Each pathway has a number of associated credentials and a number of organizations that offer the credentials. North Carolina offers programs in all of these pathways. Students may receive education aligned with any number of these credentials through CTE (technically oriented community college curriculum) programs. CTE programs are funded through the federal Carl D. Perkins Career and Technical Education Act, which dictates expectations for quality programming, such as a business advisory board for each program cluster. Students may also gain the competencies they need to earn industry-recognized credentials through shorter-term training through community colleges and workforce continuing education.

INDUSTRY CREDENTIALS AND CERTIFYING BODIES

	NUMBER OF ASSOCIATED CREDENTIALS	NUMBER OF ORGANIZATIONS OFFERING CREDENTIALS	EXAMPLES OF CERTIFYING BODIES
Agriculture, Food, & Natural Resources	1159	285	Irrigation Association; International Masonry Institute
Architecture & Construction	1188	171	National Association of Home Builders; National Ground Water Association; Association of Energy Engineers
Arts, A/V Technology	225	67	Adobe Systems Incorporated; Society of Decorative Painters
Business Management	1887	186	IBM Corporation; Certified Internet Web Professionals; VMWare
Education & Training	199	75	National Board for Professional Teaching Standards; Registry of Interpreters for the Deaf
Finance	95	41	Society of Financial Examiners; American Academy of Financial Management
Government & Public Administration	108	48	National Sheriffs' Association; National Fire Protection Association
Health Science	648	199	American Nurses Credentialing Center; American Occupational Therapy Association
Hospitality & Tourism	208	74	International Sports Sciences; Certified Horsemanship Association
Human Services	275	83	National Institute for Automotive Services; National Association of Social Workers
Information Technology	315	42	IBM Corporation; Hewlett Packard Certification and Learning
Law, Public Safety, Corrections, & Security	248	72	National Sheriffs' Association; National Board of Trial Advocacy
Manufacturing	84	48	ETA International; National Institute for Metalworking Services
Marketing	38	28	National Association of Sales Professionals; Oracle Corporation
Science, Technology, Engineering, & Math	204	45	IBM Corporation; Oracle Corporation
Transportation, Distribution, & Logistics	76	33	National Institute for Automotive Services; Manufacturing Skill Standards Council

Source: Perkins Collaborative Resource Network Certification Crosswalk https://cte.ed.gov/initiatives/certification-crosswalk

Note: This data provided by Career One Stop and Advance CTE. The data may be an undercount of credentials associated with postsecondary programs because some industry credentials are only available to adults over 18 and/or with related workforce experience.

EMPLOYER NEEDS IN NORTH CAROLINA

The NC Department of Commerce completes a biennial employer needs survey, most recently conducted in 2018. The purpose of the survey is to objectively assess hiring conditions from employers' perspectives. The survey gauges the overall proportion of NC employers with some degree of hiring difficulty; assesses why employers are having difficulty and their reactions and changes over time; and provides a better understanding of hiring practices and difficulties overall and of discrete populations. The survey does not determine worker shortages, identify skills gaps, or quantify specific mismatches in the labor force. Below are some highlights and key findings[1] from the 2018 survey that were provided by the Department of Commerce and reviewed by the Board.

- 5 out of 10 employers who tried to hire in the past year had difficulty filling at least one position (up from 4 of 10 in 2016).
- Charlotte and the Triangle had less difficulty; medium-sized metropolitan areas had more difficulty.
- Manufacturing and science, technology, engineering, and mathematics (STEM) industries had more difficulty filling positions than the overall sample did.
- A lack of employability (such as lack of work ethic) and low numbers of applicants were the top reasons given by employers with hiring difficulties.
- A lack of work experience, technical skills, soft skills, and education were also frequently reported.
- Employers reported higher rates of internet posting to recruit candidates in 2018 than in 2016.
- Opportunities exist to increase awareness of workforce development resources, especially in rural areas and among manufacturers and STEM industries.

[1] https://files.nc.gov/nccommerce/documents/files/2018-employer-needs-survey.pdf

MEASURING AND ENSURING QUALITY OF POSTSECONDARY EDUCATION CREDENTIALS

Measuring quality in postsecondary education credentials can present a challenge because there are many ways to define quality and there are varying levels of tracking how/when/where credentials are awarded. Other states and national groups (such as the Lumina Foundation and Georgetown University Center on Education and the Workforce) are assessing credential quality through measures such as:

- Program completion rates
- Percentage of completers that receive government assistance after program completion
- Employment (in field, if possible) of program completers at certain intervals after completion
- Wages/salaries of program completers at certain intervals
- Wage premiums (analysis of wages of those with/without the credential)
- Demonstrating employment supply and demand data

It is important to note that, with postsecondary education, there are quality considerations in terms of both the institution or program awarding the credentials and the quality of the credential. Most other states are defining the quality of the credential based on alignment with labor market needs/demand as shown through regional and state commerce data.

The following are examples of quality procedures and oversight bodies that are in place in North Carolina to ensure quality at the institution or program level:

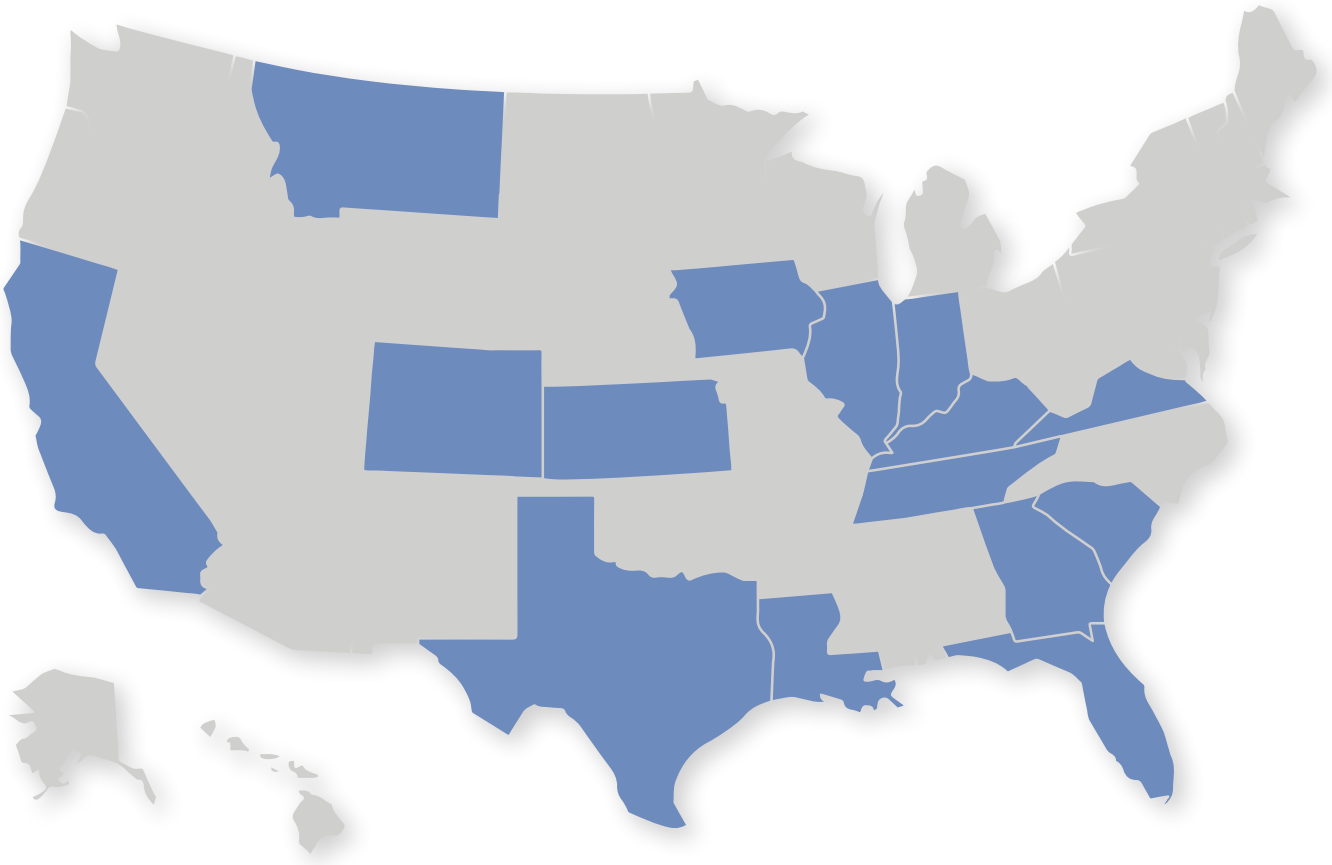
- Accreditation by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) (community colleges, universities, and colleges)
- Office of Proprietary Schools (licensing process)
- The Council on Integrity in Results and Reporting (Project Shift is the only NC boot camp with data listed on the Council on Integrity in Results and Reporting website)

Measuring and ensuring quality is one of the greatest areas of improvement for postsecondary education credential work in many states—not just in North Carolina. A key part of the work is considering what quality is and how it is determined so that consumers can be provided with information about program value and return on investment.

EXAMINING BEST PRACTICES

From December 2018 through January 2019, RTI International collected information on postsecondary credential goals and certification data collection in 15 states through interviews with state postsecondary and workforce leaders and through documentation reviews. RTI collected information on certification data collection, goal setting, and industry alignment of programs and goals. Several recommendations outlined in this report are based on best practices identified through this research that are applicable to the North Carolina context.

States were selected for the study if they were collecting certification data, incentivizing postsecondary credential attainment, connecting credentials with high-demand career paths, collecting industry certification data and aligning certificates with industry needs, and/or located in the southeastern United States (see Appendix B for a list of contacts from each state and Appendix C for more detail on each of the states). The 15 states were:



- California
- Colorado
- Florida
- Georgia
- Illinois
- Indiana
- Iowa
- Kansas
- Kentucky
- Louisiana
- Montana
- South Carolina
- Tennessee
- Texas
- Virginia

RECOMMENDATIONS

❖ **Target: Support the statewide postsecondary attainment goal set by myFutureNC.**

- **What is it?**
  - Support the statewide attainment goal set by myFutureNC: 2 million 25-to 44-year-olds (about two-thirds of the projected state population in that age range) with a high-quality credential or postsecondary degree by 2030.
- **Why do it?**
  - As of 2017, 41 states already used state attainment goals to drive priorities and strategies.[2]
  - Setting public targets for postsecondary credentials may create momentum for change because they create accountability.

Example goals set by other states for postsecondary attainment:

- Tennessee: 55% by 2025
- Texas: 60% by 2030
- Virginia: 70% by 2030

- **How does it happen?**
  - Review and implement the strategic plan provided by myFutureNC to achieve the attainment goal.
  - Consider the following elements in relation to the strategic plan:
    - Types of credentials (bachelor's degrees, associate degrees, certificates, certifications, etc.) that will count toward the goal, recognizing that most state goals do not count certifications due to lack of access to the proprietary data, incomplete reporting on certifications from institutions, and/or lack of postsecondary control over the exam content.
    - Which postsecondary systems will be included in reporting for the goal (e.g. 2-year and 4-year public and independent colleges and universities).
    - Annual benchmarks for institutions and/or statewide attainment levels.
    - Annual progress reports identifying institution progress toward goals.
    - Technical assistance to help institutions reach the goal.
- **Who leads it?**
  - Support recommendations for goal monitoring and other responsibility allocations from myFutureNC.

Some states have goals set by the governor's office (IA, MT, TN), and other states have goals set by a higher education commission, council, or board (CO, FL, KS, KY, TX, VA).

[2] https://www.luminafoundation.org/files/resources/01-statewide-attainment-goals.pdf

Table 1. Overview of state postsecondary attainment goals

State	Goal	Credentials counted toward goal	Agency or commission that developed the goal
California	Increase the number of community college students trained in in-demand industries by 20% between 2017 and 2022	Certificates, degrees	California Community Colleges
Colorado	66% of adults with a postsecondary credential by 2025	Certificates, degrees	Colorado Commission of Higher Education
Florida	55% of adults with a postsecondary credential by 2025	N/A	Florida Higher Education Coordinating Council
Georgia	60% of adults with a postsecondary credential by 2025	Degrees	University System of Georgia
Illinois	60% of adults with a postsecondary credential by 2025	Certificates, degrees	Illinois Board of Higher Education
Indiana	60% of adults with a postsecondary credential by 2025	Certificates, degrees	Indiana Commission for Higher Education
Iowa	70% of adults with a postsecondary credential by 2025	N/A	Governor's office through the Future Ready Iowa Alliance
Kansas	60% of adults with a postsecondary credential by 2020	Certificates, degrees	Kansas Board of Regents
Kentucky	60% of adults with a postsecondary credential by 2030	Certificates, degrees	Kentucky Council on Postsecondary Education
Louisiana	60% of adults with a postsecondary credential by 2030	N/A	Louisiana Board of Regents
Montana	60% of adults with a postsecondary credential (no time stamp)	Certificates, degrees	Governor's office
North Carolina	***2 million 25- to 44-year-olds (about 2/3) with a high-quality credential or postsecondary degree by 2030***	***TBD***	***myFutureNC Commission***
South Carolina	10% annual increase in certificates and credentials issued by technical colleges; exceeding the national average for degrees awarded	Certificates, degrees	South Carolina Chamber of Commerce
Tennessee	55% of adults with a postsecondary credential by 2025	Certificates, degrees	Governor's office through Drive to 55
Texas	60% of adults age 25 to 34 with a postsecondary credential by 2030	Certificates, degrees	Texas Higher Education Coordinating Board
Virginia	60% of adults with a postsecondary degree and 10% with a postsecondary certificate by 2030	Certificates, degrees	State Council of Higher Education for Virginia

❖ Alignment: Establish an NC-specific credentials-of-value list.

• What is it?

- An NC credentials-of-value list creates a target set of credentials that align with statewide and regional workforce needs as well as programs known to lead to those credentials.
- The credentials of value in the list may include certifications, certificates, degrees, and/or licenses.[3]
- The list should be updated periodically based on current labor market needs and program offerings.

• Why do it?

- Cannot promote "valued" credentials if those credentials have not been identified.
- The list can be leveraged for items such as:
  - Targeted funding allocations to programs associated with valued credentials.
  - Program tuition or cost reimbursements for programs associated with valued credentials.
  - Required data reporting on valued credentials.
  - Partnerships with certifying organizations.
- May create a process for employers or institutions to add credentials of value to the list.

Possible individual quality measures[5]

- Alignment to industry demand (current and/or projected job openings)
- Alignment to high-wage jobs (average wage above the median)
- Relevance and value to industry
- Transparency of competencies
- Portability across businesses and state lines
- Accessibility to training

• How does it happen?

- Determine how to define quality (i.e., high-"value") industries and occupations using data and employer/industry input.
  - NC Star Job ratings at state and economic development region levels, which consider industry demand and occupation wages, may be one way to define quality.[4]
  - As in states such as Georgia, there should also be a way for industry leaders, particularly at the sub-state level, to come together and define what credentials they require or strongly recommend for their hires and promotions.
- Identify industries and/or occupations of focus using the agreed-upon metrics for quality and possibly validation by industry groups.
- Identify credentials aligned with those industries or occupations and programs aligned with those credentials. Refer to national databases on certifications, such as the Credential Engine, to ensure a complete list of aligned credentials.
- Maintain and update the list as labor market needs evolve over time.

• Who leads it?

- May be led by an overarching postsecondary body, a workforce agency, or a combination of both.
- Example responsibilities for postsecondary institutions include: identify what certifications are offered and how they align with growing occupations/industries.
- Example responsibilities for industry include: identifying key occupations/industries using labor market data and validating which credentials are gateways into those sectors.

- Industry list and program alignment both led by a postsecondary institution: CO, IN
- Industry list led by a workforce agency, program alignment led by a postsecondary institution: FL, KS, LA, VA
- Industry list led by governor's office, program alignment led by a postsecondary institution: KY

[3] https://cte.careertech.org/sites/default/files/files/resources/Credentials_of_Value_2016_0.pdf
[4] https://www.nccommerce.com/blog/2019/01/03/introducing-your-2019-north-carolina-statewide-star-jobs
[5] https://www.acenet.edu/news-room/Documents/Quality-Dimensions-for-Connected-Credentials.pdf

❖ Incentives: Incentivize credentials aligned with in-demand jobs.

• What is it?

- Monetary incentives to institutions and/or students for training, tuition, or exam costs leading to valued credentials or occupation.
- Incentives may take the form of tuition scholarships, tuition and exam cost reimbursements, or stipends. These incentives may be targeted at students, institutions, and/or employers.

• Why do it?

- Allows institutions to develop or lend more support to programs leading to valued certifications or certificates.
  - May be more realistic and achievable than requiring reporting of data by institutions, especially given the antiquated data systems that colleges have (especially for workforce continuing education).
- Encourages more students to pursue credentials aligned with valued career pathways.
- Creates a channel for certification completion data and workforce pipeline information through reporting requirements associated with funding receipt.

• How does it happen?

- Develop a monetary incentive framework for valued credentials or programs aligned with valued credentials that includes institutions, students, and/or employers.
- Example frameworks
  - VA offers certification incentives to students and institutions; incentives vary in amount by program tuition and are awarded after completion.
  - FL offers institution incentives for student certification completion; incentives come from a finite pot of money (i.e., the amount per student changes with the number of certifications earned) and are awarded after certification completion.
  - IN offers incentives to employers to host trainings for new or potential employees in in-demand occupations that are awarded after completion of certification.
  - KY offers incentives to students in the form of scholarships to complete high-priority certificate programs.
- Present the program framework to stakeholders to gather recommendations and support for the program.
- Identify new funding streams to support the program.

Offer incentives to institutions: CA, FL, KS	Offer incentives to institutions and students: VA
Offer incentives to students: KY, TN	Offer incentives to students and employers: IN

• Who leads it?

- The potential lead will depend on the structure of the incentive program.
  - The framework for the program may be recommended by the community college system (CA, FL, KS, KY, TN, VA) or may be recommended by a labor agency (IN).
  - The program may be managed by the community college system in cases where it is student or institution focused (CA, FL, KS, KY, TN, VA) or by a labor agency in cases where it is employer focused (IN).
- Example responsibilities for postsecondary institution include developing a framework for an incentive program, determining which programs align with the incentive program, and coordinating certification data collection.
- Example responsibilities for industry include developing a framework for an incentive program, offering training on site, and offering capital and human resources for training and examinations at education institutions.

❖ **Dissemination: Market program quality and career path alignment to students.**

• What is it?

- Develop a targeted marketing campaign to increase awareness, provide information on the merits of existing postsecondary credential programs, and publicize information offered on the expanded NCCareers.org web platform.
- Endorse the collaborative effort led by the NC Department of Commerce to create a user-friendly, interactive web platform (nccareers.org) to share information on postsecondary program alignment with workforce needs, prospective career pathways, and return on investment as an articulation of program quality (draft views of nccareers.org and other example web platform images are provided following this recommendation).
- Example marketing campaigns:
  - CA and VA brand and publicize postsecondary continuing education programs with high return on investment.
  - TX reports job-related skills learned through four-year liberal arts degree programs.

• Why do it?

- Increases awareness of programs leading to degrees, certificates, or certifications aligned with in-demand careers.
- Shares information on program quality and workforce-relevance at both 2-year and 4-year institutions.

• How does it happen?

- Publicize existing programs through a targeted marketing campaign and the web platform.
- Endorse the NC Department of Commerce's development of a web platform in partnership with an inter-agency careers collaborative including the NC Community College System, NC Department of Public Instruction, NC Department of Human & Health Services, the UNC System, and NC State Education Assistance Authority.
- Consider additional program-level metrics to include on the web platform, particularly for programs aligned with in-demand careers.
- Make marketability a statewide postsecondary goal. Example metrics include alignment of course learning outcomes with skills desired by employers and language understandable by industry.

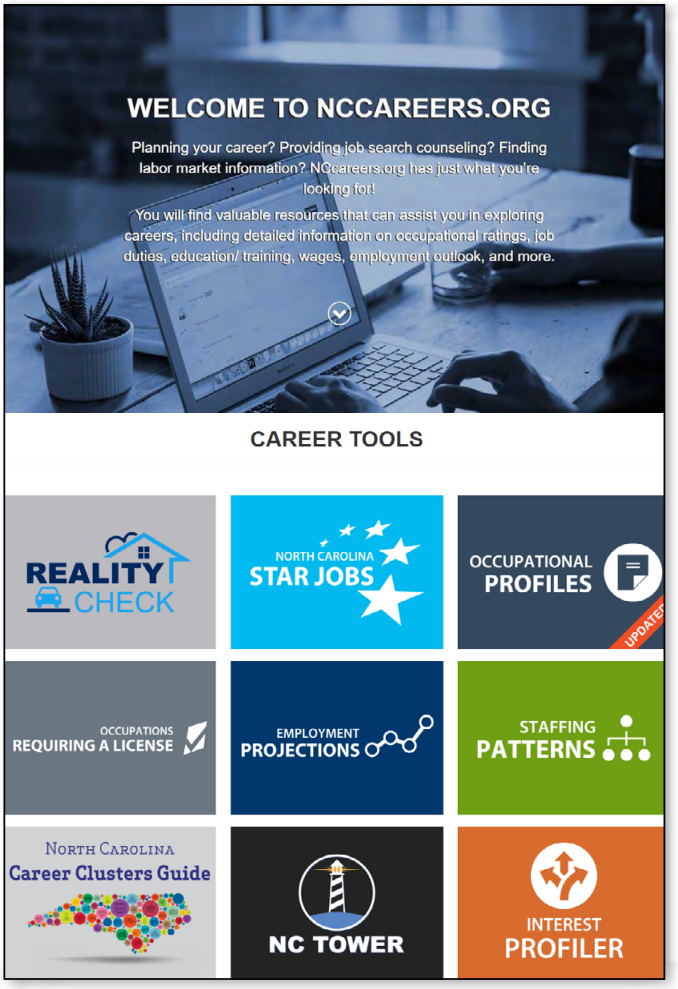
Potential program-level metrics:

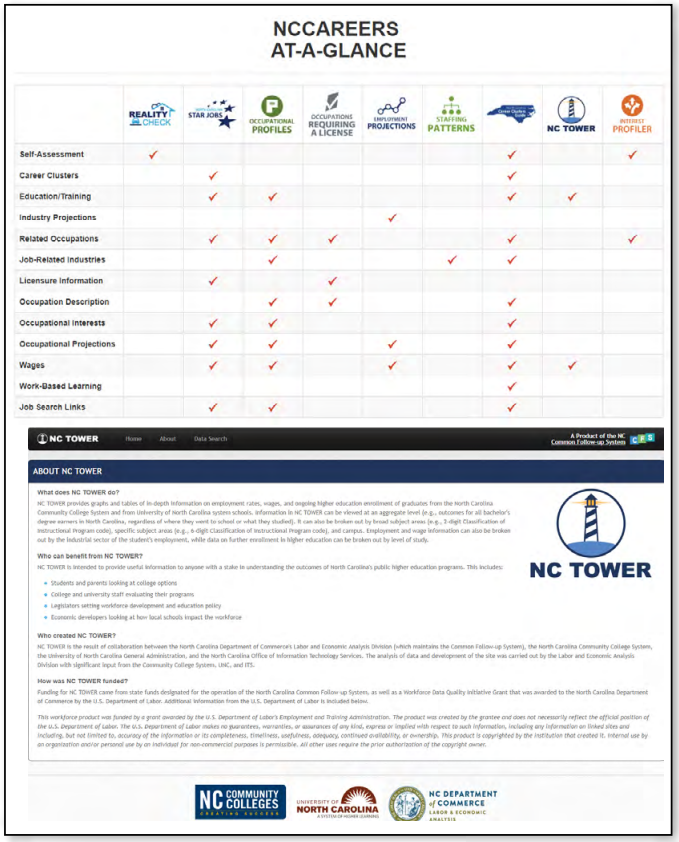
- Return on investment
- Employment supply/demand in related occupations or industries
- Top employers for program completers

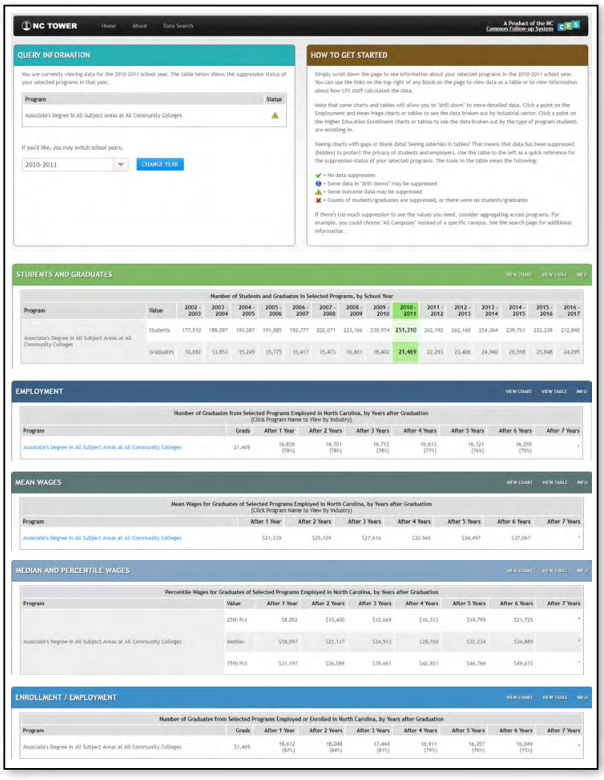
• Who leads it?

- NC Department of Commerce may lead expansion of the web platform in partnership with the interagency careers collaborative.
- The marketing campaign development and implementation may be led by individual postsecondary systems (CA), an overarching postsecondary body (TX, VA), or by the interagency careers collaborative.
- Example responsibilities for postsecondary institution include: incorporating a return-on-investment calculator into NCCareers.org, developing a program brand, rethinking how learning outcomes align with workforce needs, and communicating with industry about the skills students gain from disparate credentials and/or programs.
- Example responsibilities for industry include: communicating skills needed for workforce success and marketing occupations with hiring difficulties by funding informational career videos to be promoted on NCCareers.org.

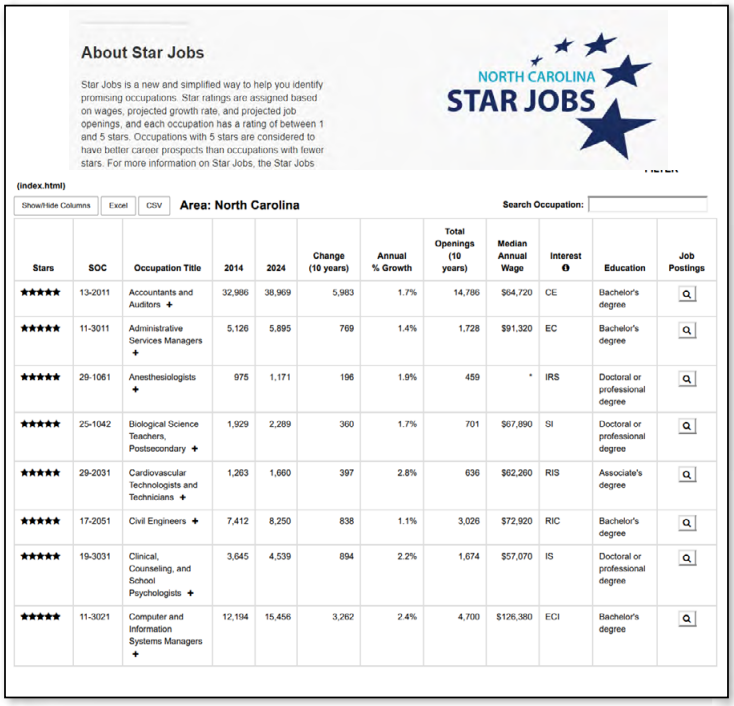
Below are images from the NCCareers.org website currently under development.[6]

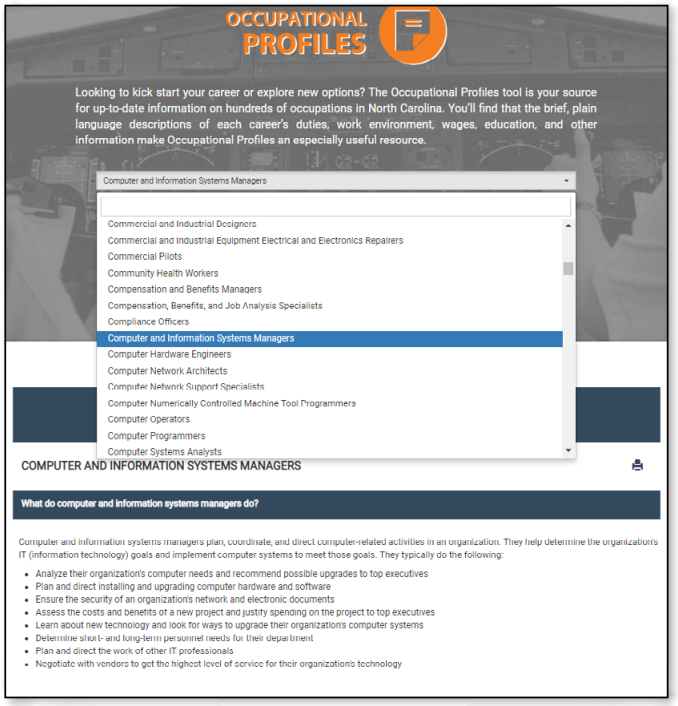






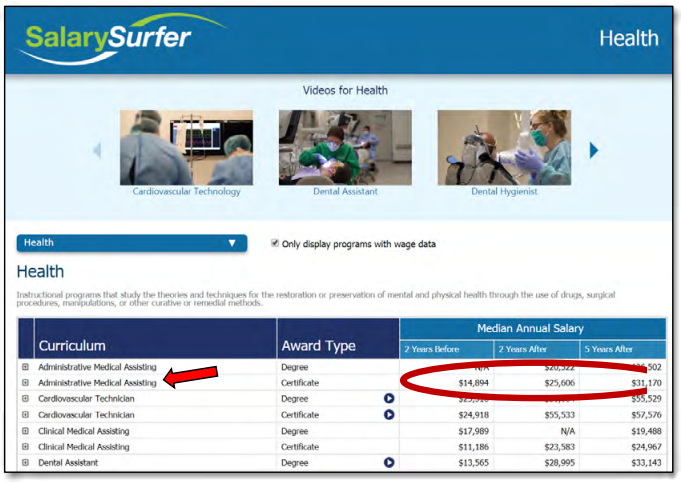
Below are images from the NCCareers.org website currently under development.[6]



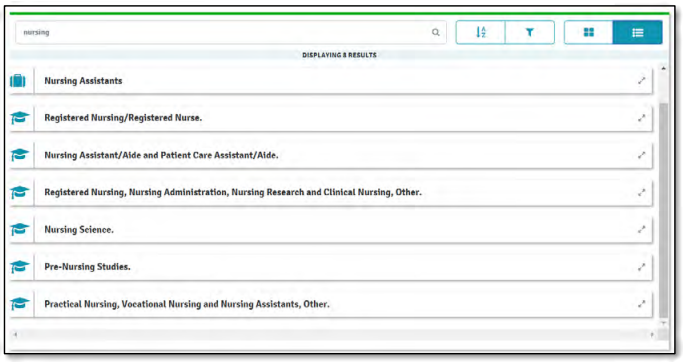


[6] NC Careers.org: https://www.nccareers.org/

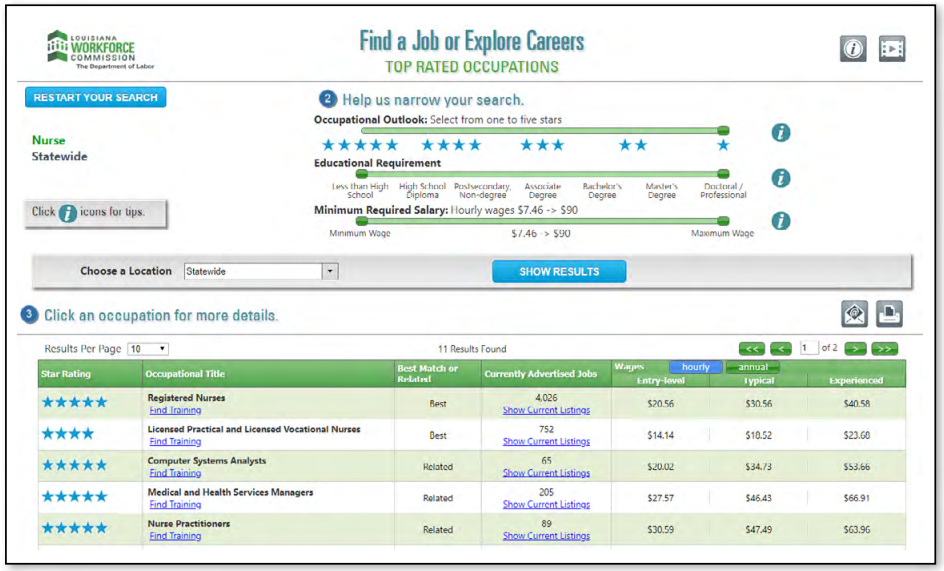
California Community Colleges Salary Surfer[7]



Launch My Career (Colorado)[8]



Star Job Search Engine (Louisiana)[9]



[7] https://salarysurfer.cccco.edu/Salaries.aspx

[8] http://launchmycareercolorado.org

[9] https://www.laworks.net/stars/

❖ **Data: Collect data on certifications.**

• What is it?

- Support the NC Community College System's work with the National Student Clearinghouse on the certification data pipeline project. Currently, the Clearinghouse is exploring ways to match student data in a select group of states, including North Carolina, with certification completion data provided directly by certifying bodies. If successful, the Clearinghouse may become a centralized source for postsecondary certification data across all states.
- Alternatively, the state could develop a system to collect data on certifications attempted or completed by postsecondary students.
  - No states are known to systematically collect complete postsecondary certification data.
  - States collecting certification data through incentive programs: FL, VA
  - States collecting certification data through mandated reporting: KS
- Data could be collected through direct partnerships with third-party certifying.

• Why do it?

- Provides information on what certifications are received, in what industries, and after completion of which programs.
- Supports tracking progress toward the state attainment goal.

• How does it happen?

- Support the NC Community College System's work with the Clearinghouse and efforts to create transparency around credential data for institutions.
- Examples of ways institutions, programs, and faculty gather certification data:
  - Host the tests at schools and make the registration number the student's ID number.
  - Require certification proof to pass a course.
  - Offer tuition or exam reimbursement in exchange for test score access.
  - Offer students a final exam exemption if they provide proof of passing a certification.
  - Arrange certification tests for students during class times or the final exam time.
  - Provide incentives for institutions or students to report data, mandated reporting for institutions, and/or alumni surveys.

• Who leads it?

- May be led by the NC Community College System.
- Example responsibilities for postsecondary include: determining method of collecting data, following up with students and institutions to receive data, developing a central reporting mechanism, and matching certification data to student data.
- Example responsibilities for industry include: sharing certification information and providing data on what certifications are required for entry into each occupation.

❖ Military Credentials: Expand the work related to military credit for prior learning.

• What is it?

- Provide staff and funding to expand and support the military credit for prior learning work within the NC Community College System.
- Continue work on online web portal (joint effort between the UNC System Office and the NC Community College System expected to launch in fall 2019).
- Support and collaborate with NC Independent Colleges and Universities on related efforts for military credit for prior learning.
- Develop a process for consistent transcripts.
- Create bridge and gap courses to connect experience and credentials.

• Why do it?

- Military credit for prior learning is a process to identify, develop, and support methods to maximize consistent award of college credits for military experience.
- Session Law 2014-67 (NC Senate Bill 761) requires the UNC Board of Governors and the State Board of Community Colleges to devise and implement a plan for the uniform granting and transferring of course credits for military training and occupational experience to veteran students enrolled in NC universities and community colleges.
- A quarter of a million veterans under age 50 reside in North Carolina, and each year approximately 17,000 men and women are discharged from NC military bases.

• How does it happen?

- Use postsecondary academic panels to evaluate military occupations and courses to award course credit within the community colleges and universities.
- Ask faculty members to make recommendations for awarding of semester credit hours.
- Examine national work to use as guides for work on military prior learning credits:
  - College Credit for Heroes – Texas Higher Education Coordinating Board and Texas Workforce Commission
  - Virginia Community College System – recently awarded $3.4 million by the U.S. Department of Labor
  - Multi-State Collaborative on Military Credit – 13 states working with grants from Lumina and Strada Education Network

• Who leads it?

- The NC Community College System in partnership with the University of North Carolina System Office.

APPENDICES

APPENDIX A: CERTIFICATES AND DEGREES AWARDED BY NORTH CAROLINA INSTITUTIONS*

INSTITUTION NAME	CERTIFICATES (ALL TYPES)	ASSOCIATE DEGREES	BACHELOR'S DEGREES	GRADUATE DEGREES
Alamance Community College	1130	591	-	-
Alexander Paul Institute of Hair Design	32	-	-	-
Anson College of Cosmetology	2	-	-	-
Apex School of Theology	-	21	72	63
Appalachian State University	-	-	4041	804
Asheville-Buncombe Technical Community College	553	921	-	-
Aveda Institute-Chapel Hill	147	-	-	-
Barton College	-	-	269	22
Beaufort County Community College	118	280	-	-
Belmont Abbey College	-	-	313	-
Bennett College	-	-	73	-
Beyond Measure Barbering Institute	30	-	-	-
Bladen Community College	156	209	-	-
Blue Ridge Community College	323	305	-	-
Brevard College	-	-	164	-
Brightwood College-Charlotte	184	12	-	-
Brunswick Community College	181	300	-	-
Bull City Durham Beauty and Barber College	7	-	-	-
Cabarrus College of Health Sciences	3	90	30	15
Caldwell Community College and Technical Institute	156	710	-	-
Campbell University	-	74	912	702
Cape Fear Community College	584	1338	-	-
Carolina Christian College	-	2	4	1
Carolina College of Biblical Studies	-	15	15	-
Carolina College of Hair Design	23	-	-	-
Carolina School of Broadcasting	23	-	-	-
Carolinas College of Health Sciences	33	125	-	-
Carteret Community College	257	242	-	-
Catawba College	-	-	287	3
Catawba Valley Community College	130	689	-	-
Center for Massage	48	-	-	-

Source: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS): 2016–17

NOTE: IPEDS data includes every North Carolina public and private two- and four-year institution and proprietary or vocational institution that participates in the federal student financial aid programs. Certificates include awards of less than 1 academic year, awards of at least 1 but less than 2 academic years, and awards of at least 2 but less than 4 academic years. These awards are referred to as certificates, but in some cases may actually be postsecondary diplomas.

INSTITUTION NAME	CERTIFICATES (ALL TYPES)	ASSOCIATE DEGREES	BACHELOR'S DEGREES	GRADUATE DEGREES
Central Carolina Community College	602	583	-	-
Central Piedmont Community College	941	2056	-	-
Chamberlain University-North Carolina	-	-	-	-
Charlotte Christian College and Theological Seminary	-	5	11	3
Chowan University	-	-	209	7
Cleveland Community College	491	303	-	-
Coastal Carolina Community College	790	701	-	-
College of the Albemarle	231	291	-	-
College of Wilmington	91	-	-	-
Craven Community College	199	341	-	-
Daoist Traditions College of Chinese Medical Arts	-	-	-	26
Davidson College	-	-	503	-
Davidson County Community College	970	625	-	-
DeVry University-North Carolina	-	7	34	50
Duke University	-	-	2446	3924
Durham Beauty Academy	17	-	-	-
Durham Technical Community College	494	481	-	-
East Carolina University	-	-	4883	1651
Edgecombe Community College	209	333	-	-
Elizabeth City State University	-	-	261	17
Elon University	-	-	1635	251
Empire Beauty School-Charlotte	29	-	-	-
Empire Beauty School-Concord	43	-	-	-
Empire Beauty School-E Greensboro	30	-	-	-
Empire Beauty School-Pineville	61	-	-	-
Empire Beauty School-West Greensboro	39	-	-	-
Empire Beauty School-Winston-Salem	29	-	-	-
Fayetteville State University	-	-	1016	171
Fayetteville Technical Community College	2396	1852	-	-
Forsyth Technical Community College	504	1046	-	-
Gardner-Webb University	-	28	593	566
Gaston College	335	808	-	-
Grace College of Barbering	8	-	-	-
Grace College of Divinity	23	10	8	-
Greensboro College	-	-	111	54
Guilford College	-	-	505	-
Guilford Technical Community College	1038	1447	-	-
Gwinnett College	93	-	-	-

INSTITUTION NAME	CERTIFICATES (ALL TYPES)	ASSOCIATE DEGREES	BACHELOR'S DEGREES	GRADUATE DEGREES
Halifax Community College	478	138	-	-
Harrison College-Morrisville	-	73	-	-
Haywood Community College	383	309	-	-
Health And Style Institute	142	-	-	-
Heritage Bible College	-	3	11	-
High Point University	-	-	939	79
Hood Theological Seminary	-	-	-	39
Isothermal Community College	340	263	-	-
James Sprunt Community College	143	168	-	-
John Wesley University	-	-	19	8
Johnson & Wales University-Charlotte	-	363	334	-
Johnson C Smith University	-	-	232	54
Johnston Community College	466	667	-	-
Jung Tao School of Classical Chinese Medicine	-	-	-	21
King's College	82	107	-	-
Lees-McRae College	-	-	326	-
Lenoir Community College	437	403	-	-
Lenoir-Rhyne University	-	-	277	228
Leons Beauty School Inc	109	-	-	-
Living Arts College	107	-	34	-
Livingstone College	-	2	151	-
Louisburg College	-	142	-	-
Mars Hill University	-	-	229	3
Martin Community College	63	76	-	-
Mayland Community College	163	122	-	-
McDowell Technical Community College	91	150	-	-
Meredith College	-	-	424	167
Methodist University	-	2	404	73
Mid-Atlantic Christian University	2	6	33	-
Miller-Motte College-Cary	134	83	-	-
Miller-Motte College-Fayetteville	541	83	-	-
Miller-Motte College-Greenville	209	52	-	-
Miller-Motte College-Jacksonville	370	112	-	-
Miller-Motte College-Raleigh	206	103	-	-
Miller-Motte College-Wilmington	87	478	126	-
Mitchell Community College	272	429	-	-
Mitchell's Hair Styling Academy-Raleigh	37	-	-	-
Mitchell's Hairstyling Academy-Wilson	4	-	-	-

INSTITUTION NAME	CERTIFICATES (ALL TYPES)	ASSOCIATE DEGREES	BACHELOR'S DEGREES	GRADUATE DEGREES
Montgomery Community College	361	89	-	-
Montreat College	-	14	153	61
MyComputerCareer.edu-Raleigh	757	-	-	-
NASCAR Technical Institute	634	-	-	-
Nash Community College	412	387	-	-
North Carolina A & T State University	-	-	1524	458
North Carolina Central University	-	-	1132	658
North Carolina State University at Raleigh	-	157	5632	3352
North Carolina Wesleyan College	-	-	575	-
Pamlico Community College	283	62	-	-
Paul Mitchell the School-Fayetteville	89	-	-	-
Paul Mitchell the School-Gastonia	158	-	-	-
Paul Mitchell the School-Raleigh	76	-	-	-
Pfeiffer University	-	-	255	255
Piedmont Community College	222	132	-	-
Piedmont International University	3	6	57	78
Pinnacle Institute of Cosmetology	28	-	-	-
Pitt Community College	1501	1261	-	-
Queens University of Charlotte	-	-	422	283
Randolph Community College	527	1123	-	-
Richmond Community College	403	388	-	-
Roanoke-Chowan Community College	107	68	-	-
Robeson Community College	166	245	-	-
Rockingham Community College	134	266	-	-
Rowan-Cabarrus Community College	613	821	-	-
Saint Augustine's University	-	-	137	-
Salem College	6	-	238	29
Sampson Community College	102	188	-	-
Sandhills Community College	284	550	-	-
Shaw University	-	-	183	24
Shepherds Theological Seminary	-	-	-	23
Sherrill's University of Barber & Cosmetology	41	-	-	-
South Piedmont Community College	249	248	-	-
South University-High Point	-	14	73	18
Southeastern Baptist Theological Seminary	21	6	64	347
Southeastern Community College	187	170	-	-
Southeastern Institute-Charlotte	186	-	-	-
Southwestern Community College	189	405	-	-

INSTITUTION NAME	CERTIFICATES (ALL TYPES)	ASSOCIATE DEGREES	BACHELOR'S DEGREES	GRADUATE DEGREES
St. Andrews University	-	-	127	18
Stanly Community College	349	360	-	-
Strayer University-North Carolina	-	102	201	353
Surry Community College	199	448	-	-
The Art Institute of Charlotte	10	92	48	-
The Art Institute of Raleigh-Durham	6	19	63	-
Tri-County Community College	15	157	-	-
University of Mount Olive	4	193	617	56
University of North Carolina at Asheville	-	-	802	6
University of North Carolina at Chapel Hill	7	-	5811	3436
University of North Carolina at Charlotte	-	-	5266	1892
University of North Carolina at Greensboro	-	-	3249	1055
University of North Carolina at Pembroke	-	-	1006	240
University of North Carolina School of the Arts	-	-	199	37
University of North Carolina Wilmington	-	-	3484	720
University of Phoenix-North Carolina	-	-	103	20
Vance-Granville Community College	214	511	-	-
Virginia College-Greensboro	148	29	-	-
Wake Forest University	-	-	1307	1260
Wake Technical Community College	3448	2627	-	-
Warren Wilson College	-	-	152	24
Watts School of Nursing	74	-	-	-
Wayne Community College	739	501	-	-
Western Carolina University	-	-	2224	535
Western Piedmont Community College	83	381	-	-
Wilkes Community College	263	429	-	-
William Peace University	-	-	209	-
Wilson Community College	239	272	-	-
Wingate University	-	-	353	409
Winston Salem Barber School	42	-	-	-
Winston-Salem State University	-	-	1135	131
TOTAL (Certificates and Degrees Awarded in 2016-2017)	**32228**	**33896**	**58735**	**24780**

Source: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS): 2016–17

NOTE: IPEDS data includes every North Carolina public and private two- and four-year institution and proprietary or vocational institution that participates in the federal student financial aid programs. Certificates include awards of less than 1 academic year, awards of at least 1 but less than 2 academic years, and awards of at least 2 but less than 4 academic years. These awards are referred to as certificates, but in some cases may actually be postsecondary diplomas.

APPENDIX B: TABLE: OVERVIEW OF STATE RESEARCH AND CONTACTS

Overview of state research and contacts

STATE	DOCUMENT REVIEW	INTERVIEW AND DOCUMENT REVIEW	CONTACT
California		X	Jean Claude Mbomeda, Program Assistant, California Community Colleges
Colorado	X		
Florida		X	Eric Godin, Associate Vice Chancellor for Research & Analytics, Florida Department of Education
Georgia	X		
Illinois		X	Jay Brooks, Director for Research and Policy Studies, Illinois Community College Board
Indiana	X		
Iowa	X		
Kansas	X		
Kentucky		X	David Mahan, Executive Director of Data, Research and Analytics, Kentucky Council on Postsecondary Education Alicia Crouch, Vice Chancellor of Research and Policy Analysis, Kentucky Community and Technical College System
Louisiana		X	Ingrid Cook, Director of Institutional Research and Data Quality, Louisiana Community and Technical College System Will Seaman, Director of Workforce Alignment, Louisiana Community and Technical College System
Montana	X		
South Carolina	X		
Tennessee	X		
Texas		X	Ginger Gossman, Senior Director for Innovation and Policy Development, Texas Higher Education Coordinating Board
Virginia		X	Lori Dwyer, Assistant Vice Chancellor for Workforce Policy, Virginia Community College System

APPENDIX C: SUMMARY OF STATE RESEARCH

General State Research Summary

Of the 15 states reviewed:

- 13 states have a statewide postsecondary attainment goal
  - 3 are designated by the governor: IA, MT, TN
  - 8 are designated by a higher education commission, council, or board: CO, FL, GA, IL, IN, KS, KY, TX, VA
- 7 states prioritize postsecondary credentials of value or programs aligned with in-demand industries: CO, FL, IN, KS, KY, LA, VA
- 7 states offer monetary incentives for certification completion and/or participation in a program that leads to a certification.
  - 3 offer incentives to institutions: CA, FL, KS
  - 2 offer incentives to students: KY, TN
  - 1 offers incentives to institutions and students: VA
  - 1 offers incentives to students and employers: IN

California

In 2015, California formed a statewide effort called the Strong Workforce Taskforce, led by the Community College Chancellor's Office, to improve the state's workforce training programs.[10] The Taskforce made over two dozen recommendations, one of which was to invest $248 million in postsecondary career technical education. **In 2017, the Strong Workforce Program began providing positive incentive funding for postsecondary CTE programs that meet local and regional industry needs.** California Community Colleges (CCC) also hosts a live database of industry certification exams offered throughout the state.[11]

The state has attempted to collect postsecondary certification data from industry certifying bodies but has not received this data universally for all industry sectors or certifications. Some colleges independently collect this data on their students. Methods for getting this data include using the college campus as a testing center, tying registration identification numbers to student identification numbers, and providing monetary incentives to students in the form of exam cost vouchers.

Although California does not have a statewide postsecondary goal, CCC intends to increase the number of community college students who are trained in in-demand industries by at least 20% between 2017 and 2022. At the state level, there are goals of reducing equity gaps and increasing the percentage of CTE students who become employed in their field of study. Moving forward, the state also has plans to create a comprehensive P20 student longitudinal data system.

Colorado

In 2012, the Colorado Commission of Higher Education (CCHE) developed a strategic plan to increase the percentage of adults with postsecondary credentials to 66% by 2025.[12] **The CCHE created targets for annual attainment overall and in high-demand areas, defined as science, technology, engineering, mathematics, education, and health care.**

Colorado is improving the talent pipeline into high-demand industries by building career pathways and systems. Career pathways and systems connect secondary, postsecondary, and workforce agencies through the articulated progression of coursework, stacked credentials, and clear entry and exit points. Through a legislative mandate, the state is creating career pathways in different in-demand industries each year. The state began with a focus on manufacturing and is now moving through a set of five industries specified in the legislation. This work is led by the Aligning Career Pathways Subcommittee of the Colorado Workforce Development Council (CWDC). CWDC publishes annual talent pipeline reports to showcase industry needs and career pathway progress.

[10] http://doingwhatmatters.cccco.edu/StrongWorkforce/Overview.aspx
[11] https://doingwhatmatters.cccco.edu/LaunchBoard/IndustryCredentials.aspx
[12] http://masterplan.highered.colorado.gov/

Florida

The Florida Higher Education Coordinating Council set a statewide attainment goal of 55% of adults with a postsecondary credential by 2025, an initiative called Rise to 55. Although the attainment goal includes all credentials, colleges intend to target credentials aligned with in-demand industries. With the help of funding from two grants, the council used four strategies to reach this attainment goal: research, statewide convenings, regional convenings, and media outreach and communications. Individual colleges received monetary awards to strengthen industry-education partnerships and improve attainment efforts. The council also provided all colleges with a toolkit that included tips on how to host a convening and communicate about educational attainment.[13]

In 2007, Florida launched a certification incentive program through the Career and Professional Education (CAPE) Act, wherein institutions receive funds for each student who completes a certification. Under this act, the Agency for Workforce Innovation created a definition of "industry certification" and set quality criteria for certifications. Certifications that meet these criteria are called credentials of value. All certifications on the list must align to occupations designated as high demand, high wage through a general appropriations act. Florida has separate credential-of-value lists for secondary and postsecondary programs. Both lists must be approved by the State Board of Education. The Board reapproves the list annually. Colleges may request certifications be added to the list if they are aligned with local industry needs and course offerings.

Credentials of value are split into two tiers.[14] Top-tier certifications, termed "gold standard" certifications, may articulate into college credits. Each community college has articulation agreements that translate industry certifications into credits toward AA or AAS degrees. The agreements are updated annually and are determined locally to align with courses offered at each institution.

In addition to defining credentials of value, the CAPE Act allocated $1 million in incentive funding for certification completion. The CAPE Act grants institutions up to $1,000 per student who successfully receives a certificate on the credential-of-value list each year. Because the total allocated for CAPE does not change, the amount received varies by how many students and institutions participate in a given year (i.e., the more participants, the lower the reimbursement per student). Funding for this incentive comes from the Florida Department of Education, which oversees both secondary and postsecondary programs in Florida.

Colleges are responsible for reporting proof of completion in order to receive CAPE funds. **Colleges often get this directly from certifying bodies by asking students to sign release forms in exchange for testing vouchers or reimbursements.** In at least one case, a community college created a staff position to manage this data collection process.

Georgia

The University System of Georgia set a goal of 60% of adults with a postsecondary credential by 2025.[15] Credentials are defined as associate or bachelor's degrees for the purposes of this goal, excluding certificates or certifications.

The Georgia Department of Education developed industry certification standards that apply to both secondary and postsecondary certifications aligned with career and technical education programs.[16] State foundations accredit programs offering industry-aligned certifications.

[13] https://www.floridacollegesystem.com/resources/educational_attainment_toolkit.aspx
[14] http://www.fldoe.org/academics/career-adult-edu/career-technical-edu-agreements/industry-certification.stml
[15] https://www.completegeorgia.org/goals
[16] http://www.gadoe.org/Curriculum-Instruction-and-Assessment/CTAE/Pages/Industry-Certification-Standards.aspx

Illinois

The Illinois Board of Higher Education set a goal of 60% of adults with a postsecondary credential by 2025, with annual benchmarks and reports starting in 2009–10 through 2025.[17] The credential count includes all those offered by postsecondary institutions (i.e., certificates and degrees).

Previously, **Illinois participated in the Credential Data Exchange Project to receive data from CompTIA and the Manufacturing Skills Council on student certification completions.** Illinois and other participants faced difficulties matching students to the certification data records because the certifying bodies did not collect identifiers that would allow positive, accurate matches to individual students (e.g., Social Security number, date of birth). Although the certifying bodies volunteered to collect these additional identifiers from those taking the exams, the matching is still far from perfect. Since the project's conclusion, Illinois has discussed a centralized certification database with the National Skills Coalition.

Indiana

The Indiana Commission for Higher Education set a goal of 60% of working age residents having a high-quality postsecondary credential by 2025. High-quality is defined as a bachelor's degree, associate degree, or high-quality certificate. It is unclear how *high-quality certificates* are defined.

The governor's office leads an initiative called Next Level Jobs to focus on the workforce pipeline into in-demand, high-paying jobs in six priority industry sectors. The program is overseen by the Department of Workforce Development. **Adults without a postsecondary degree may receive free training in these high-priority industries through credit-bearing or non-credit-bearing programs, through Workforce Ready grants.**[18] The grant incentivizes participation by covering tuition for up to 2 years and includes up to six credit hours of remedial work. Employers may also receive reimbursements to train employees in the priority industries; reimbursements cover costs up to $5,000 per employee and up to $50,000 per employer. In return, employers must provide information on the type of training and the 6-month retention status of each participating employee.

The State Board of Education maintains a list of credentials of value.[19] To be added to the list, industry certifications must be "developed or supported by business and industry to verify student mastery of technical skills competencies in an occupational area that aligns with Indiana's economic sectors." Certifications must also meet minimum demand requirements of 200 jobs available over the next 10 years and meet minimum wage requirements of wages above the 25th percentile of 2014 wages for all Indiana occupations.

Iowa

The state of Iowa created the Future Ready Iowa Alliance through an executive order in 2016.[20] The alliance was tasked with developing a strategic plan to increase the percentage of Iowans with a postsecondary credential to 70% by 2025. The governor signed the Future Ready Iowa plan into law in 2018.

Outside of Future Ready Iowa, **Iowa offers Workforce Innovation and Opportunity Act (WIOA) funding toward tuition for industry training**, and the state also promotes manufacturing industry pathways through Elevate Iowa.[21]

[17] https://www.iccb.org/data/60-by-2025/
[18] https://www.nextleveljobs.org/Job-Seeker/Available-Job-Training
[19] https://www.in.gov/dwd/2852.htm
[20] https://www.futurereadyiowa.gov/
[21] https://www.iowaworkforcedevelopment.gov/eligible-training-provider ; https://www.elevateiowa.com/

Kansas

Postsecondary institutions in Kansas share a goal of increasing the number of adults with a postsecondary credential to 60% by 2020. Though legislation requires postsecondary institutions to report industry certification data to the Kansas Board of Regents, these certifications are not counted toward the attainment goal. Institutions differ in how they collect this data from students, and the collection often focuses on students in Perkins-funded programs. For example, institutions may follow up with their students through alumni surveys or may cold call recent completers.

Efforts surrounding high-demand occupations and incentives for training focus on secondary institutions in Kansas. **The Kansas Department of Labor developed a list of high-demand occupations that align with secondary programs, and the state incentivizes a pipeline into those occupations through the initiative Excel in CTE**.[22] Passed in 2013, Excel in CTE grants districts a $1,000 incentive payment for every student who receives a certification associated with a high-demand occupation, along with financial incentives toward dual enrollment and program marketing.

Kentucky

The Kentucky Council on Postsecondary Education is composed of citizens, faculty, and students, all appointed by the governor. The Council worked with postsecondary leaders to develop a strategic agenda, spotlighting a key goal of 60% of working-age adults (25-64) attaining a postsecondary credential by 2030.[23] The attainment goal counts degrees and certificates. The plan also includes other performance targets and metrics related to topics such as enrollment and achievement. **A metric used to track participation in workforce training programs is the number of noncredit training hours completed by postsecondary students each academic year;** the number of clock hours completed in each course is converted into the number of credit hours completed for this metric. The workforce training program metric is not associated with a concrete goal due to unrelated changes in program offerings year to year. A technical guide on all metrics was developed to assist with local implementation and measurement.

Kentucky is building in accountability for programs aligned with industry demand using their performance-based funding system. A portion of funding (4%) is allocated to institutions based on student completions in programs aligned with high-wage, high-demand, and/or science, technology, engineering, mathematics, and health care occupations. *High wage* is defined as at or above 75% of the median wage; *high demand* is defined as at or above average growth or at least 100 annual job openings.

Operating under an executive order from the governor, Kentucky launched Work Ready Scholarships to incentivize entry into postsecondary programs aligned with the fastest growing industries.[24] The targeted industries are determined by the governor's office and may fluctuate year to year. The Kentucky Community and Technical College System determines which programs qualify for the scholarship and align with targeted industries each year and manages the implementation of the scholarship program (e.g., application process, granting of the tuition scholarships). Students qualify for the program if they are enrolled in a related program and do not yet have an associate degree. The program initially excluded students who were enrolled in associate degree programs and was only offered to students enrolling in short- and long-term certificate programs. The program requirements were expanded to include students in certificate programs on their way to an associate degree because many students participate in multiple pathways at once.

[22] https://klic.dol.ks.gov/gsipub/index.asp?docid=403
[23] http://cpe.ky.gov/ourwork/strongerbydegrees.html
[24] https://systemoffice.kctcs.edu/workforce_solutions/work_ready_scholarship/index.aspx

Louisiana

In late 2018, the Louisiana Board of Regents adopted the goal of 60% of Louisiana adults earning a postsecondary credential by 2030.[25] A master plan involving all postsecondary institutions to reach this goal is expected to be released by the Regents in early 2019. One anticipated component is a statewide framework for expanding dual-enrollment opportunities, created in conjunction with the Louisiana Board of Elementary and Secondary Education.

Separately, the Louisiana Community and Technical College System (LCTCS) has been pursuing a systemwide strategic plan, Our Louisiana 2020, that includes both student-focused goals and workforce engagement goals. The student-focused goals include increasing the number of graduates per year and increasing the earnings of graduates. **For the purposes of the attainment goal, LCTCS defines graduates as students who complete any credit or noncredit program and receive any credential, including an industry certification.** Industry certification data are collected through the reporting system used to track billing and completion of noncredit programs in the LCTCS. Certifications can only be entered if they appear on the list of approved high-value credentials created by a state workforce board. For the earnings goal, LCTCS receives earnings data from a combination of unemployment insurance and survey data.

The Our Louisiana 2020 strategic plan also includes a goal for growing partnerships with business and industry. Partnerships may take a variety of forms, from reviewing program curricula, to providing access to equipment, to providing human resources to assist with program training, to teaching lessons.

Certifications are tied into LCTCS short-term training opportunities in two ways. First, postsecondary students may receive credit for technical certificates if they have already completed an industry certification and provide proof to their local institution. These articulation agreements are created at the institution level. Second, LCTCS will soon require high-value industry certifications for completion of technical competency training programs. Previously, many of these short-term programs taught entry-level skills that built up to but did not require completion of certifications, which are reported to LCTCS. The requirement was piloted at several institutions in the 2018–19 academic year and will launch systemwide in the 2019–20 academic year.

The Workforce Investment Council (WIC) in the Louisiana Department of Labor maintains the Industry-Based Certification State Focus list.[26] The list aligns with a set of in-demand occupations determined by the Louisiana Workforce Commission, also located in the Department of Labor. To be included on the list, certifications must align with an in-demand occupation (defined as four- or five-star occupations on the Commission's Star Jobs list) and have the support of at least three Louisiana employers recognizing the certification. Almost all certifications on the list are offered by third-party certifying bodies. The small number of certifications not offered by third parties are offered by postsecondary institutions for competencies articulated by industry as important but for which there are no certification exams. These certifications must be supported by eight to ten employers in order to be offered by postsecondary institutions as a certification and to be included on the list. The WIC reviews every credential on the list on a 2-year cycle and regularly adds new credentials through a rolling application process.

Montana

In 2013, the governor of Montana issued a call to increase the percentage of adults with a postsecondary credential to 60%.[27] Montana uses data-sharing agreements between the Montana University System Office of the Commissioner of Higher Education and other state agencies to connect postsecondary students in public and private institutions with both wage records and income tax data. This employment data is used to make evidence-based policy decisions.

[25] https://regents.la.gov/regents-support-aspirational-attainment-goal-for-2030/
[26] http://www.laworks.net/PublicRelations/WIC_IndustryBasedCertification.asp
[27] http://mus.edu/CCM/081913_Complete_College,%20Gov%20News%20Release.pdf

South Carolina

The South Carolina Chamber of Commerce Education and Workforce Development Committee developed a set of education and industry goals to be achieved by 2025.[28] These included the postsecondary attainment goals of a 10% annual increase in certificates and credentials issued by technical colleges and exceeding the national average for degrees awarded. Workforce attainment goals include growing apprenticeship opportunities and the number of businesses participating in youth apprenticeship each by 10% annually, as well as expanding apprenticeship opportunities to all counties.

Tennessee

Tennessee's Drive to 55 Alliance set the goal of 55% of adults with a postsecondary credential, defined as a degree or certificate, by 2025.[29] To reach this goal set forth by the governor, **Tennessee launched two scholarship programs to provide free tuition at community and technical colleges (Tennessee Promise and Tennessee Reconnect) and is building career pathways from secondary to postsecondary to the workforce (Tennessee Pathways).** These programs incentivize attainment for graduating high school students and working adults.

The state defines credentials of value and systematically collects industry certification data at the secondary level directly from certifying bodies.[30] To be considered a credential of value, a certification must be industry recognized, aligned to a CTE course or program of study, accepted for credit by postsecondary institutions, and aligned to a high-quality occupation. The Tennessee Department of Education established memoranda of understanding with **all** but one provider of certifications considered credentials of value. The certifying bodies use templates provided by the state to submit data on student registration for and completion of industry certifications. Although the certification data are submitted directly to the agency, staff have historically only been able to match 50% of it to secondary student data due to mismatches in the types of available student identifiers. No certification data are systematically collected at the postsecondary level.

Texas

The Texas Higher Education Coordinating Board (THECB) launched a statewide strategic plan for postsecondary education in 2015.[31] The plan, 60x30TX, is named after the primary goal of 60% of adults age 25 to 34 holding a postsecondary credential by 2030. The plan includes three other goals around increasing student completion at public and private institutions, improving the marketability of degree programs, and managing student loan debt. **The postsecondary marketability goal centers on introducing language about employability or soft skills into course learning outcomes and communicating the skills students learn in coursework into resume-worthy terminology that employers can understand.**

All postsecondary institutions collect data on student industry certifications and licensures for accrediting purposes. The THECB requests this data from institutions as an optional reporting component and receives it from a subset of institutions. However, the THECB does not count certifications toward attainment goals because reporting of certifications is not required and not all exams are directly connected with program curricula.

[28] https://www.scchamber.net/about/chamber-committees/education-workforce-development-committee/2025-education-goals
[29] http://driveto55.org/
[30] https://www.tn.gov/content/dam/tn/education/ccte/cte/cte_certs_2018-19.pdf
[31] http://www.60x30tx.com/goals/

Virginia

The State Council of Higher Education for Virginia set an attainment goal of 70% of adults holding a postsecondary credential by 2030.[32] A unique aspect of this goal is that it is broken into two benchmarks: 60% of adults will have a degree and another 10% will have a certificate. The council named this and five goals in the Virginia Plan for Higher Education. One other goal, for example, is for 75% of graduates to earn a certain level of wages by three years after graduation. Separately, the Virginia Community College System (VCCS) developed a strategic plan to triple the number of postsecondary credentials earned, degree or certificate, between 2014 and 2021.[33] The VCCS attainment goal is distinct from the council's goal because industry certifications are counted toward the goal.

Virginia began implementing the New Economy Workforce Grant Program in 2016 after it was codified into law. T**he Workforce Grant Program provides incentive funding to institutions and individuals to complete industry certifications.** Under the program, a student will only have to pay for one-third of the program and institutions may be granted funds for the remaining two-thirds of the program tuition if the student both finishes the program and receives an industry certification. If the student completes the program but does not receive a certification, the institution only receives one-third of the program funding. If the student does not complete the program, the student is responsible for the cost of the program. The state allocates $9.5 million annually for the program, and the council exhausts this funding each year.

To receive funding, institutions are required to submit completion and certification data to the council. Institutions are responsible for getting the certification data from students; faculty and staff have found effective methods to acquire this information, such as making the certification a syllabus requirement. They provide the data to VCCS to track student employment and quality of life outcomes. Thus far, VCCS reports improvements in quality of life and wages for program participants.

As part of the grant program, **the Virginia Board of Workforce Development – a business-led board that advises the governor – developed a list of high-demand occupations and revises the list annually.** Occupations are included on the list based on their relevance to the state's economic development strategy, the advanced skill requirements, and the statewide demand projections. VCCS labels programs as eligible for the grant program if they align with occupations on the high-demand occupation list or do not meet the criteria but have an ongoing need (e.g., drones and automotive). VCCS promotes short-term training programs eligible for the grant program under their recently developed brand, "Fast Forward."

[32] http://www.schev.edu/index/statewide-strategic-plan/overview
[33] http://cdn.vccs.edu/wp-content/uploads/2014/12/complete_2021_draft.pdf

APPENDIX D: SOURCES/REFERENCES LIST

2018 Employer Needs Survey.
https://files.nc.gov/nccommerce/documents/files/2018-employer-needs-survey.pdf

60X30 Texas. Goals.
http://www.60x30tx.com/goals/

Board of Regents State of Louisiana. Regents Support Aspirational Attainment Goal for 2030.
https://regents.la.gov/regents-support-aspirational-attainment-goal-for-2030/

California Community Colleges. Doing What Matters. Industry Credentials Valued by California Employers and Educators.
https://doingwhatmatters.cccco.edu/LaunchBoard/IndustryCredentials.aspx

California Community Colleges. Doing What Matters. What is Strong Workforce?
http://doingwhatmatters.cccco.edu/StrongWorkforce/Overview.aspx

Colorado Department of Higher Education.
http://masterplan.highered.colorado.gov/

Credentials of Value: State Strategies for Identifying and Endorsing Industry-Recognized Credentials.
https://cte.careertech.org/sites/default/files/files/resources/Credentials_of_Value_2016_0.pdf

Drive to 55 Alliance.
http://driveto55.org/

Elevate Advanced Manufacturing (Iowa).
https://www.elevateiowa.com/

Florida Department of Education. Statewide Articulation Agreements.
http://www.fldoe.org/academics/career-adult-edu/career-technical-edu-agreements/industry-certification.stml

Future Ready Iowa.
https://www.futurereadyiowa.gov/

Georgia Department of Education. Industry Certification Standards.
http://www.gadoe.org/Curriculum-Instruction-and-Assessment/CTAE/Pages/Industry-Certification-Standards.aspx

Illinois Community College Board. Research and Policy Studies. 60% by 2025.
https://www.iccb.org/data/60-by-2025/

Indiana Department of Workforce Development. Industry Recognized Certifications.
https://www.in.gov/dwd/2852.htm

Iowa Workforce Development. Certification Process.
https://www.iowaworkforcedevelopment.gov/eligible-training-provider

Kansas Department of Labor. Kansas High Demand Occupations.
https://klic.dol.ks.gov/gsipub/index.asp?docid=403

Kentucky Community and Technical College System. Work Ready Scholarship.
https://systemoffice.kctcs.edu/workforce_solutions/work_ready_scholarship/index.aspx

Kentucky Council on Postsecondary Education. Strategic Agenda.
http://cpe.ky.gov/ourwork/strongerbydegrees.html

Launch my Career Colorado.
http://launchmycareercolorado.org

Louisiana Workforce Commission. Industry-Based Certification.
http://www.laworks.net/PublicRelations/WIC_IndustryBasedCertification.asp

NC Careers.org.
https://www.nccareers.org/

Next Level Jobs Indiana. Job Certification Training.
https://www.nextleveljobs.org/Job-Seeker/Available-Job-Training

North Carolina Department of Commerce. Introducing your 2019 North Carolina Statewide Star Jobs!
https://www.nccommerce.com/blog/2019/01/03/introducing-your-2019-north-carolina-statewide-star-jobs

Quality Dimensions for Connected Credentials.
https://www.acenet.edu/news-room/Documents/Quality-Dimensions-for-Connected-Credentials.pdf

Salary Surfer.
https://salarysurfer.cccco.edu/Salaries.aspx

South Carolina Chamber of Commerce. 2025 Education Goals.
https://www.scchamber.net/about/chamber-committees/education-workforce-development-committee/2025-education-goals

Star Job Search Engine (Louisana).
https://www.laworks.net/stars/

State Council of Higher Education for Virginia. Overview: The Virginia Plan for Higher Education.
http://www.schev.edu/index/statewide-strategic-plan/overview

State of Montana News Release. Bullock Announces Complete College Montana Initiative.
http://mus.edu/CCM/081913_Complete_College,%20Gov%20News%20Release.pdf

Statewide Education Attainment Goals: A Case Study.
https://www.luminafoundation.org/files/resources/01-statewide-attainment-goals.pdf

Tennessee Department of Education. Tennessee Promoted Industry Certifications.
https://www.tn.gov/content/dam/tn/education/ccte/cte/cte_certs_2018-19.pdf

The Florida College System. Educational Attainment Toolkit.
https://www.floridacollegesystem.com/resources/educational_attainment_toolkit.aspx

The University System of Georgia. Complete College Georgia.
https://www.completegeorgia.org/goals

Virginia Community College System. Strategic Plan for 2021.
http://cdn.vccs.edu/wp-content/uploads/2014/12/complete_2021_draft.pdf

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