

# FOUR WAYS TO INCREASE THE VALUE OF SHORT-TERM CREDENTIALS

**A Guide for Community Colleges**



By Veronica Buckwalter





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Jobs for the Future (JFF) is a national nonprofit that builds educational and economic opportunity for underserved populations in the United States. JFF develops innovative programs and public policies that increase college readiness and career success and build a more highly skilled, competitive workforce. With over 30 years of experience, JFF is a recognized national leader in bridging education and work to increase economic mobility and strengthen our economy. [www.jff.org](http://www.jff.org)



Lumina Foundation is an independent, private foundation in Indianapolis that is committed to making opportunities for learning beyond high school available to all. The foundation envisions a system that is easy to navigate, delivers fair results, and meets the nation's need for talent through a broad range of credentials. Its goal is to prepare people for informed citizenship and for success in a global economy.



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# INTRODUCTION

There is broad agreement that a postsecondary education is essential to finding a good job.<sup>1</sup> But traditional two-year or four-year college degrees are no longer the only path to family-sustaining wages. An abundance of alternative educational credentials that can be completed in less time, for less money, has emerged in recent years, as widely cited research has projected growing demand for more specialized postsecondary options.<sup>2</sup> The explosive growth of short-term credentialing programs provides a much broader range of choices than previously available to a wide array of students, from recent high school graduates seeking their first job to older workers hoping to change careers.

The offerings include a variety of certificates granted by higher education institutions, certifications granted by private industry, and microcredentials granted by higher education, industry, or for-profit education providers. Many indicate mastery of specific skills, knowledge, and abilities, but require less coursework than an associate degree, which involves at least two years of study. Attainment of these “sub-associate credentials,” as they are often called, increased dramatically over the past decade—about 33 percent, according to recent measures.<sup>3</sup>

## Identifying the Problem

In theory, sub-associate credentials have offered a promising solution to bridge the nation’s skills gap and align prospective workers more directly with employer needs. Five years ago, roughly 5 million middle-skill positions were predicted to go unfilled by 2020 due to a shortage of qualified jobseekers, individuals with some postsecondary education but not a full degree.<sup>4</sup> For many college leaders and policymakers, increasing the supply of educational certificates, certifications, and other short-term credentials appeared to be the logical strategy. State and federal funding grew, as did private sector interest and investment in credentialing programs.<sup>5</sup>

But so far, increasing the supply of alternative credentials has not met expectations. Employers generally do not see the value that the educators who created them envisioned. Relatively few companies routinely consider non-degree credentials in hiring or promotions. There is also significant variability in the extent to which employers participate in the process

of creating credentialing education programs. Some collaborate closely with education providers, helping to ensure that the credentials will hold high value in the labor market. But many struggle to effectively translate their skill needs to educators, resulting in programs that are not aligned to industry demand.

## The Key Role of Community Colleges in Credentialing

This report centers on one key player in the credentialing system—community colleges—and examines the deep challenges and potential opportunities they face in driving greater employer demand for short-term credentials. These public two-year institutions award roughly half of all certificates in the United States and also offer courses required for other types of alternative credentials, such as certifications.<sup>6</sup> Community colleges disproportionately serve students from low-income backgrounds and other groups that are underrepresented in the middle class. Strengthening the process for developing credential programs at community colleges and increasing their value to a range of employers would have several important benefits. Most important, it would expand the supply of highly qualified workers that regional economies need to thrive, and it would increase the number of low-income individuals who advance in the labor market.

The paper proceeds in four parts. The first section identifies the main types of credentials offered by community colleges and explains the key distinctions among them. The second summarizes the extent to which sub-associate credentials serve as a tool for industry to identify talent, and explores the biggest barriers to expanding their use from the perspective of employers. The third section explores the barriers from the perspective of community colleges themselves. The paper also highlights examples of community college efforts toward increasing employer demand for short-term credentials. It concludes with recommendations for an array of strategies that can help other colleges achieve success.

Underlying every section is a central theme: colleges cannot do this work alone. It is absolutely critical for educators to engage employers and other business and economic stakeholders in meaningful ways in order to ensure that credentialing programs reflect labor market needs.

## Research Methods

Much of the information presented in this report came from in-depth interviews with education and workforce practitioners and policymakers. JFF staff conducted phone interviews with 30 people from 26 organizations. They included: community college faculty and administrators representing individual institutions and statewide systems; hiring managers and frontline managers representing individual employers in the manufacturing, construction, information technology, energy, and health care industries; workforce development professionals representing statewide and national industry associations; as well as representatives of research organizations, government agencies, and credentialing bodies. Information from interviews was supplemented by a research review of the characteristics and value of sub-associate credentials. (See Appendix A for details.)

## CLARIFYING THE COMPLEX WORLD OF CREDENTIALING

The boom in educational programs and providers offering short-term credentials has led to a cluttered and confusing landscape of postsecondary credentialing alternatives, with little quality control and many obstacles to widespread adoption by industry.<sup>7</sup>

The sheer number of credentialing bodies is one issue. For example, in addition to community colleges, which award academic certificates, the U.S. has more than 4,000 personnel-certification bodies. However, less than 10 percent of the personnel-certification bodies are accredited or reviewed by an outside third-party to validate their content.<sup>8</sup> This leads to significant variation in the benefits of the certifications offered.

A lack of transparency exacerbates the problems. It is particularly challenging to know whether certifications capture the skills, knowledge, and abilities their creators claim they signal when the process for creating a validated examination is unclear. There is also little information to assist students in choosing worthwhile credentials to pursue or to assist employers in choosing which are most likely to be valuable.<sup>9</sup>

Even the language of credentialing is problematic and, in fact, poses a major challenge to the field. Nationally recognized, standard definitions for sub-associate credentials can vary depending on the credential-granting body. Without the development of a common language for credentialing—and a shared understanding of different types of credentials—the field will continue to struggle to engage employers, scale successful approaches, and collect meaningful outcomes data.

The overall impact of this inconsistent, widely unregulated credentialing system is felt among students, employers, workers, and the postsecondary institutions involved. It also adds to the barriers already facing individuals from disadvantaged economic backgrounds and populations underrepresented in higher education who are seeking to move into the middle class but struggle to continue their education beyond high school.



## National Efforts to Improve Credentialing

Attention to these problems is on the rise, including high-profile calls for a national dialogue on how to build a well-functioning and sustainable credentialing system.<sup>10</sup> One of these dialogues, the Connecting Credentials Beta Framework is a partnership between Lumina Foundation and Corporation for a Skilled Workforce. The volume and diversity of credentials currently available in the marketplace has made it challenging for industry, academia, and job-seekers to determine the level of knowledge, skills, and abilities offered through the programs. The Connecting Credential Beta Framework aims to provide these stakeholders with a way to assess the value and suitability of different types of credentials through the use of competencies as a common reference point.<sup>11</sup>

## The Three Most Common Short-Term Credentials

In an attempt to clarify this complex world, this report examines the three main types of sub-associate credentials that are provided by (or in conjunction with) community colleges, and are growing in popularity across the country. Each has its own unique characteristics and benefits, described below. The three types are:<sup>12</sup>

1. Certificates
2. Certifications
3. Micro-Credentials (includes Digital Badges)

JFF developed the descriptions below based on input from interviewees, national credentialing subject matter experts, and existing literature. They were designed with the most commonly used definitions and characteristics across a broad range of educators and employers. However, it is important to remember, as noted above, that credential types and descriptions are not fully standardized, and key stakeholders may use different terminology.

## Certificates

Certificates are awarded upon the successful completion of a course of postsecondary study, usually one year or less but at times longer. They are offered primarily by public or private two-year institutions of higher education and often hold high value within local areas where employers had input into their development. University extension programs and non-degree-granting postsecondary institutions such as area career and technical education schools also grant certificates. Once issued, a certificate does not require any further action to retain. Certificate programs can require assessment or be non-assessment based.<sup>13</sup>

*Assessment-based certificate* programs require participants to meet performance, proficiency, and passing standards in order to achieve the certificate. These assessments may be formal or informal.<sup>14</sup> These certificates are generally referred to as certificates of achievement.

*Non-assessment-based certificates*, also known as certificates of completion or participation, do not require demonstration of intended learning outcomes. The certificate awarded at completion of the program or event signifies that the participant was present and, in some cases, that the participant actively participated in the program or event.

## Certifications

Certifications indicate mastery of or competency in specific knowledge, skills, or processes that can be measured against a set of industry standards that have been created through a validation process. Common examples include advanced manufacturing certifications offered by the National Institute for Metalworking Skills (NIMS) and the American Welding Society (AWS), and automotive certifications offered by Automotive Service Excellence (ASE). Community colleges offer coursework for the competencies required to earn a certification, though the credentials themselves are assessed and awarded by external businesses, trade associations, or industry groups. After attaining a certification, individuals often must meet ongoing requirements to maintain its validity. Further, certifications may be revoked for unethical behavior or incompetence through due-process procedures.



Certifications typically share the following distinguishing characteristics: they are sought or accepted by employers within the industry or sector involved as recognized, preferred, or required credentials for recruitment, screening, hiring, retention, and/or advancement purposes. They also often are endorsed by a nationally recognized trade association or organization representing a significant part of the industry or sector.<sup>15</sup> However, even though they have been validated by a diverse set of national industry leaders and are therefore generally more transferable and valued by employers than certificates, most certifications still haven't achieved widespread uptake.

## Micro-Credentials (Includes Digital Badges)

Micro-credentials are relatively new to the credentialing landscape and are still in the process of being defined by both industry and the numerous educational institutions developing and issuing them. Generally, a micro-credential attests to achievement of specific knowledge, skills, or competencies. It is more narrowly focused than certifications or most certificates, which typically attempt to capture that individuals have demonstrated a comprehensive, interrelated set of knowledge and skills required to competently perform a job role.

Micro-credentials can be represented by a paper award, a digital badge, or both. However, it is important to note that digital badges and micro-credentials cannot be used interchangeably. Rather, digital badges are a means of issuing and representing micro-credentials on a digital platform.<sup>16</sup> These badges can represent a range of outcome achievements such as mastering a competency, achieving a specific experience level, or completing a project. Badges can be easily displayed and shared online. Badging platforms can be open or closed depending on the issuer.

While micro-credentials and digital badges can be considered a sub-associate credential because most programs can be completed in less than two years, an increasing number of longer-term, high-skill micro-credentialing programs are emerging. For example, edX has formed partnerships with various universities to develop MicroMasters<sup>®</sup> credentials. MicroMasters<sup>®</sup> programs are a series of graduate-level courses in a specific field intended to advance one's career.<sup>17</sup>

## Industry Specialization Opens Doors for Micro-Credentials

As technology continues to advance and industries come to require a greater degree of specialization across their workforce, "apprenticeship-style" experiences within the workplace are starting to emerge. In regions where educational institutions are unable to meet the demand for workers with specialized knowledge and experience, some companies are taking it upon themselves to provide shorter, highly specialized apprenticeship-style training to provide workers with the knowledge and skills needed in niche areas of their industries. JFF's research revealed that this model is starting to appear in the health care and energy industries in certain regions of the country, with companies pairing new hires with experienced workers in highly specialized areas of their companies for several months. This on-the-job learning is combined with classroom instruction via online coursework or training provided in house.

The demand for highly specialized workers creates a potential opportunity for micro-credentials to fill an unmet credentialing need. Micro-credentials are designed to be highly focused and, with an effective design and development process, could enable workers to demonstrate their specialized skills and experience through the use of a digital badging platform.

For example, the Interstate Renewable Energy Council recently partnered with the Building Performance Institute, the Green and Healthy Homes Initiative, and Professional Testing Inc. to develop a micro-credential framework to address a unique credentialing need for building analysts and certified energy auditors.<sup>18</sup> While this framework is not currently designed to offer digital badges, IREC believes the framework has the potential to serve as a model for the creation of future micro-credentials within or outside of the energy industry.

As one high-level community college administrator told JFF, "the rise in technology in manufacturing facilities and the fact that many companies have scaled back on hiring as a result of automation has given way to the need for increased skill competency among those individuals that a company does choose to hire. [Micro-credentials and other sub-associate credentials] provide evidence of competency of very specific skill sets that companies are looking for and enable workers to build on these skills while working for the company."

## SPOTLIGHT ON COLORADO: Community College System Launches Digital Badging<sup>19</sup>

In 2015, the Colorado Community College System (CCCS) committed to the creation of a suite of micro-credentials for the manufacturing industry. With funding from a federal grant, the system developed the micro-credentials as digital badges, which enable students to build online portfolios of their individual achievements and learning outcomes on a secure platform accessible to prospective employers.

Industry awareness of digital badges was extremely low at the start of the project, according to Brenda Perea, instructional design project manager for CCCS. So the community college system used a variety of marketing strategies to garner support and to make information about the badges easily available. In addition to engaging industry associations to help educate employers about the value of digital badges, CCCS also focused on Colorado policymakers. This outreach helped the community college system connect with the K-12 system, four-year colleges, and large employers who were not yet partners.

CCCS also invested in the creation of an open-access website, which provides visually appealing, easy-to-digest information about the digital badging initiative.<sup>20</sup> With 17 manufacturing badges available today, CCCS aims to replicate the model for other industries such as cybersecurity and health care.



## Comparing the Options

Figure 1 serves as a basic guide to the three types of credentials, highlighting the key characteristics and distinguishing features of each (with the understanding that exceptions do exist across the country). It outlines who typically creates these credentials and through what process, how customized the curriculum content is to local or regional industry, how learning and skills are validated and assessed, how long it takes to earn the credential, and how the credential is updated, if necessary.

**Figure 1: Key Attributes of Three Common Types of Sub-Associate Credentials<sup>21</sup>**

	<b>Certificates</b>	<b>Certifications</b>	<b>Micro-Credentials (Includes Digital Badges)</b>
<b>Development Process</b>	Curriculum and assessments (if applicable) developed through close collaboration between local industry and college faculty.	Diverse set of industry leaders provide input into curriculum competencies and design. Training and education provided by community college or other education and training providers.	Varies by educational provider, no standardized protocol for development.
<b>Often Endorsed By</b>	Industry or other approving body such as accrediting or regulatory agency.	National industry associations, professional societies, or industry leaders.	Industry or other approving body, such as accrediting or regulatory agency.
<b>Customization (degree to which the program's curriculum is reflective of local industry skill needs)</b>	Varies depending on level of industry engagement, but has high potential.	Low to moderate.	Varies depending on developer.
<b>Portability (degree to which the credential is recognized in various parts of the country)</b>	Low.	High.	Varies depending on developer.
<b>Flexibility (degree to which curriculum can be updated quickly)</b>	Moderate.	Low.	Varies.
<b>Learning Assessment.<sup>22</sup></b>	Completion of program, formal or informal knowledge and skills assessment.	Standardized exam or formal skills assessment designed and vetted by a diverse set of industry experts and administered by certified professionals at approved education locations.	Completion of program, project, or informal or formal knowledge and skills assessment.
<b>Industry Awareness</b>	Varies by region.	Moderate.	Low.
<b>Length of Typical Program</b>	Several weeks to a year or more.	Varies depending on certification requirements and existing knowledge and experience.	Often three months or less, but can be longer.

## What Makes a Credential High Quality?

Given the variety of sub-associate credentials available in the marketplace, how do students, colleges, and companies determine which are of high quality? What are the defining characteristics of a high-quality credential? Building on research conducted for this paper, as well as prior work by JFF, Lumina Foundation, the U.S. Department of Labor, and others, JFF developed a list of the eight factors most critical for ensuring high-quality credentials:<sup>23</sup>



**Industry recognized.** The credential is created and/or endorsed by industry leaders who state publicly that they prefer or require it for certain occupations. It also is widely recognized by employers and education and training providers.



**Portable.** The credential is recognized and valued across regions or states, and across companies and subsectors within an industry, regardless of geographic location.



**Stackable.** Credentials reflecting distinct skills are sequenced and linked. Multiple stackable credentials can be accumulated over time to build an individual's qualifications to progress along a career pathway or toward a more advanced certification or degree.



**Third-party validated.** Examinations, content, and curricula have been evaluated by an independent third party, such as American National Standards Institute, to affirm that the credentials meet national standards and accurately represent the skills and experiences they purport to show.



**Demand-driven.** The decision to create or offer a credential responds to an expressed need from industry. This helps to ensure adoption by employers once complete. Regulatory requirements may be a source of demand due to health or safety.



**Designed by a diverse mix of subject matter experts.** The curriculum was developed by experts from a cross-section of industry subsectors in order to make the credential applicable to a large proportion of an industry.



**Flexible.** The credential was designed in a way that allows for timely curriculum updates as necessary to meet the ever-evolving needs of employers and the local economy.



**Transparent.** The skills and knowledge the credential indicates and the steps required to obtain it are communicated clearly to all interested parties.

Much of the current credentialing literature focuses on the first four attributes listed above. But according to the industry leaders and educators interviewed for this paper, the last four attributes are equally important and community colleges should prioritize them in program development, as well.

## Beyond Individual Employers: Matching Credentials To Industry Needs

Identifying the most appropriate type of credential to meet industry needs can be difficult, particularly when trying to address the individual demands of several competing companies within a region. In situations where employer partners face difficulty reaching consensus, colleges can consider a variety of questions that may help to identify which type of credential provides the greatest utility to all stakeholders. For example, it is important to review the attributes of the most common types of credentials, being sure to highlight factors such as degree of customization, portability, validity, and recognition by industry. (See Appendix B “**How to Choose the Right Credential**” for a quiz to help explore these issues.) While the information-gathering process may require several meetings, community college leaders agree that in-depth engagement of their employer partners is critical to establishing trust and buy-in for a credential and helping to increase its adoption.

One of the biggest decisions facing colleges is whether to offer programs that prepare learners for a nationally developed credential or a locally developed credential. Pros and cons of each approach are provided below. College administrators can assist with this process by working with faculty and industry partners to create a decision-making protocol that guides staff and stakeholders through the process of selecting the most appropriate credential in a way that is transparent and provides evidence to justify the decisions made. Whether a college chooses to develop a “homegrown” certificate or offer curriculum that prepares students to sit for industry-recognized certification exams, it can take a significant amount of time to gain widespread recognition and support from local companies.

### Nationally Developed

#### Pros

Nationally developed, industry-recognized certifications tend to be created with a high degree of transparency and take into consideration the competencies workers need to be successful across an industry regardless of geographic location, making them highly portable. They are often vetted by industry experts representing some of the world’s largest multinational firms, and can be used as a preferred qualification for hiring and promotions. In addition, the curriculum, assessments, and/or exams that validate student learning are likely designed by organizations with years of experience working with industry consortia at the national level. These firms are on the cutting edge of learning strategies and curriculum design, with access to a broad range of resources to ensure the validity and credibility of the content they develop.

#### Cons

Nationally developed certifications can be difficult to customize given the time required to receive permission to alter curriculum content to meet localized skill needs. Further, the potential costs involved can be significant. There are often fees associated with securing the curriculum content, training faculty to deliver the coursework, and purchasing required equipment and other materials.

### Locally Developed

#### Pros

Interviews with community colleges and employers show there are definite advantages to creating certificates more focused on meeting the specialized skill needs of local companies. Employers told us they value the level of customization incorporated into locally developed programs. In most cases, these employers have developed longstanding, collaborative relationships with the educational providers and, therefore, trust the development process, the quality of the instructors, and the chosen learning assessment. The flexibility these types of certificates can provide is another attractive feature, because it allows for quick and easy curriculum updates as needed. Certificate programs developed by colleges also provide value to local industries where there are no existing national industry-recognized certifications. Colleges with industry partners that do not have a sustained or large-scale need for industry-recognized certifications may find it most feasible to create a customized certificate program.

#### Cons

Locally developed certificates tend to lack the portability that nationally developed certificate programs provide. They are highly customized to the local or regional needs of employers, which makes them valuable to the college’s industry partners, but limits their value to employers outside the region and workers that may eventually seek employment outside the local area. In addition, locally developed certificates are often not validated by a third party which can call into question their rigor and quality of curriculum by parties that were not involved in the curriculum design process.



# THE INDUSTRY PERSPECTIVE

## EMPLOYERS SEE INCONSISTENT VALUE

Employer acceptance of short-term credentials is inconsistent at best. In general, representatives of companies JFF interviewed expressed support for sub-associate credentials in theory, but demonstrated a range of understanding of their use and an infrequent commitment to using them in hiring decisions. In most cases, employers indicated that they consider credentials only as a supplement to other hiring or promotion practices. Several employers said they use credentials to screen job candidates when they have an abundance of resumes that meet the minimum qualifications for a position. However, aside from a select few information technology industry leaders, or in the case of occupations for which individuals are required by law to hold a license or certification, none of the employers interviewed have begun requiring specific short-term credentials for hire.

This is not to say that no employers seek out specific credentials. For example, three colleges whose leaders JFF interviewed have employer partners in the construction industry that have come to value and prefer graduates who have earned the stackable National Center for Construction Education and Research credentials. In addition, manufacturing firms look for the MSSC (Manufacturing Skills Standards Council), NIMS, and AWS stackable credentials when hiring. However, the college leaders explained that while companies with close ties to the college often seek out credential holders, a large percentage of companies not tied to the college still remain unaware of the value they offer.

Several employers said that sub-associate credentials are useful when it comes to prioritizing job candidates. Brenda Perea, instructional design project manager with the Colorado Community College System, told JFF that digital badges help teach employers how to identify talent.

Other employers use certificates and certifications to assess a person's level of commitment to the industry, and some use them to identify individuals who have the potential to advance into more highly skilled positions. One employer noted that sub-associate credentials can be valuable in helping supervisors more strategically delegate projects or assignments to align with an

individual's interests, strengths, and demonstrated abilities.

## Why Employers Don't Value Credentials More

In part, the value gap is a reflection of the broad disconnect between academia and employers. A recent pair of Gallup polls found that, while 96 percent of college leaders are confident that their institutions are preparing students for success in the workplace, only 11 percent of business leaders share that view.<sup>24</sup> Employers told JFF that they believe colleges create too many credential programs without determining a true need.

What are other reasons employers don't make greater use of short-term credentials? JFF interviews revealed that some employers and industry associations are well aware of the role they could play in scaling the use of sub-associate credentials, but few are willing or able to dedicate the time and resources necessary to advocate for increased standards that would clarify their value. Several complex issues shape a company's ability to integrate short-term credentials into their hiring and professional development models. Below we describe the challenges that were mentioned most frequently in interviews.

### Awareness Gap

Only a small percentage of employers have a strong understanding of the various relevant certificates that are offered by local colleges (except for those required by law) and the value those certificates provide. In addition, employers often are unaware of coursework offered by the college that could help their workers earn an industry certification. Conversations with employers revealed that most learn about alternative credentials either through their membership in a local industry association or through their relationship with a community college. As a result, only the small fraction of employers that have an established and fruitful relationship with college partners—most often serving on program industry advisory councils, for example—are knowledgeable about the range of available programs.<sup>25</sup> In other cases, employers may learn about credentials from a prominent champion, such as a political figure, elected official, or college president.

### Premium on Demonstrated Competencies

The majority of company representatives we interviewed agreed that the ability to demonstrate

competence in performing a task is often more valuable than having earned a specific credential. Employers prefer a variety of in-person assessments and exercises to determine a candidate's ability to succeed on the job, though the process could lend itself to inconsistencies and bias in hiring decisions. Many employers require a demonstration of competence that shows a person's ability not only to perform a task, but to perform it safely and efficiently using modern methods and techniques relevant to today's technology. As one employer noted, regardless of credentials or experience, "You never really know if an individual will be a good fit until you get them out on the floor."

Some employers expressed frustration that academia tends to award certificates based solely on "seat time" or completion of a course, rather than on proven mastery of skills taught. In fact, some colleges are moving toward competency-based education models to address these concerns. However, inconsistency in college requirements for any given credential, and the proliferation of certificates not representative of employer demand, make it difficult for employers to trust that a candidate actually has the ability the credential signals without some sort of supplemental assessment or screening during the interview process.

### **Urgent Need to Fill Open Positions**

In some cases, a tightening labor market has led industry to experience such severe labor shortages that employers are unable to require new hires to hold short-term credentials because of an urgent need to fill positions quickly. There simply are not enough credentialed jobseekers in the potential hiring pool. Interviewees said that, until the supply of credentialed workers can adequately meet the demands of industry, many companies will not be able to include credentials in their hiring standards.

### **Human Resources Policies**

Multiple employers raised concerns regarding the potential for perceived discrimination if a company were to begin requiring a credential for certain positions when previous hires did not face the same requirement. Companies with multiple locations are also concerned that requiring a credential may pose untenable barriers to hiring in regions without easy access to educational programs that offer the credential. An employer with multiple manufacturing plant locations across the country noted that it's difficult to make its preferred credential, the MSSC Certified Production Technician certification, mandatory for new hires because the credential is not easily accessible in all of the regions where the company has locations.

### **Affordability Concerns**

A lack of access to affordable training programs in some regions is another cause for concern for many companies. When the cost of a program is prohibitive for job candidates, employers fear eliminating potentially qualified prospective employees who can't afford the additional education. The high cost of some programs can make integrating the credential into incumbent worker training strategies difficult as well.

### **Internal Disconnects**

Internal communication problems can also pose barriers to acceptance of credentials. Unless human resource staff actively participate in industry discussions focused on credentials, they tend to lack an understanding of which credentials provide value within the industry. Meanwhile, frontline managers and supervisors may be aware of these certifications and credentials, but struggle to get human resources departments to revise job descriptions to include preference for the credential.

### **Legal Requirements**

Several employers noted that the most widely adopted credentials in the marketplace today are those that are legally mandated. They emphasized that making a credential required by law is the fastest way to increase demand. They also noted that, until credentials are a legal requirement for occupations in their industry, many companies will most likely not integrate them into everyday hiring practices.

### **Lack of Documented Value**

Most credentials lack documented evidence of the value they bring to employers. Some employers are unwilling to trust credentials if they don't see evidence that the credential is able to reduce their costs, improve their productivity, or shorten the amount of time they need to spend on training new hires.

However, several of the industry representatives we spoke with said they believe that employers should take greater responsibility for adopting a voluntary, proactive approach to understanding and integrating credentials as a potential means of addressing their hiring and retention challenges. These firms agreed that making a commitment to invest in education and training, and having a future-focused perspective of their workforce needs that emphasizes career advancement and succession planning, is critical to making an impact on the growing skills gap, and should not be dependent on regulation.



## **SPOTLIGHT ON FLORIDA**

### **State Pays Incentives for Demand-Driven Credentials<sup>26</sup>**

Florida's public education system has used financial incentives to encourage demand-driven design of new credential offerings for 10 years. Under a 2007 law called the Career and Professional Education Act, the state provides bonus funding to high schools and colleges that offer high-quality credential programs for skills and jobs that are proven to be in demand. The total amount of appropriated funding varies each year, but colleges can receive up to \$1,000 for each student earning a credential on the Legislature's list of target occupational areas.

Both school districts and community colleges can request to have credentials added to the incentive funding list. However, they need letters of support from the local workforce development board, economic development agencies, and employer partners in order to be eligible for the funding.

This voluntary system of quality assurance has fostered the collaboration of education and industry to identify sub-associate credentials of value to Florida employers and to provide consistency across education providers. The program has grown every year since its inception. Florida currently supports the completion of roughly 16,000 in-demand postsecondary certifications annually.

In order to evaluate the program's success, Florida is working with a national research firm and the U.S. Department of Education to produce one of the most comprehensive outcomes-based research studies of credentials to date.

# THE COMMUNITY COLLEGE PERSPECTIVE

## EDUCATORS FACE SYSTEMIC BARRIERS

Several of the challenges community college leaders expressed in interviews focused on limitations of the college system and available resources. Leaders agreed that, while a general lack of awareness is probably the single greatest barrier to broader employer uptake of credentials, community colleges lack sufficient marketing resources to address the issue. Faculty resistance and rigid institutional protocols also affect the ability of colleges to promote their credential offerings.

### Limited Marketing Resources

Colleges identified two related outreach needs: raising awareness about credentials among high school students, parents, and employers; and marketing their certificate offerings or specific courses that could lead to industry-recognized certifications. Colleges JFF interviewed agreed that the marketing budgets allocated for this purpose simply are not adequate to reach these audiences in a meaningful and consistent way.

### Few Productive Employer Partnerships

Raising awareness about the value of credentials requires more than money, however. When asked what she believes could help address the lack of awareness, Meredith Sparks Ament, senior associate vice chancellor for strategy and academic governance at City Colleges of Chicago, observed that it's essential to involve employers and industry associations much more in the curriculum development process. This would provide "greater insight into the composition and value of the credentials themselves, as well as exposure to the students they ultimately can and will hire." In addition, as more and more students complete specific credentials and offer them in the labor market, employers will learn what they signify.<sup>27</sup>

## Faculty Resistance

Faculty who do not believe in the value of a credential or oppose making changes to their curriculum can hinder efforts to introduce courses that lead to sub-associate credentials. Administrators mentioned that preference for the status quo among tenured staff can be very difficult to overcome, and can ultimately impact both marketing efforts and the quality of instruction. This is particularly true when faculty are asked to implement these changes without being involved in the process. College staff we spoke with agreed that buy-in from faculty and motivation to update or revamp the curriculum are critical to making a credential offering successful.

## Institutional Structures That Limit Flexibility

The curriculum development and review process for credit-bearing programs can be cumbersome and extremely slow at community colleges. For technical programs, where technology and skill needs change frequently, programs that are slow to respond to industry needs are likely to lose the trust and confidence of their employer partners. To the extent that they can remain within accreditation guidelines, colleges should explore strategies to create new, more supportive policies.

## Lack of Recognition from Accreditation Bodies

Third-party accreditation is a powerful tool for demonstrating that a credential is representative of the competencies it claims to represent. In some cases, accreditation can come from national bodies like American National Standards Institute. In other cases, it can come from state regulation, where program accreditation bodies ensure that graduates are sufficiently skilled to work safely with health care patients, for example. College staff in particular felt that lack of support or recognition by state accrediting bodies can discourage an educational provider from offering programs, and can impact industry's likelihood to buy into the credential or integrate it into their hiring practices. Community college and industry leaders JFF spoke with mentioned that, particularly in the health care industry, accreditation bodies influence which credentials are deemed "critical" and "high quality." A unified effort by both colleges and employers is needed to successfully gain increased support and recognition of accreditation bodies and national industry associations for sub-associate credentials.

# RECOMMENDATIONS

## HOW COLLEGES CAN DEVELOP MORE CREDENTIALS THAT EMPLOYERS NEED

Educators and employers share the same goal when it comes to short-term credentials: developing transparent, flexible, and responsive programs where students can earn credentials that are trusted, respected, and hold labor market value. Colleges, employers, and industry stakeholders must work together to address and mitigate many of the barriers to widespread use that are outlined above. However, there is a widespread assumption that community colleges should bear much of the responsibility for this given that their missions most often revolve around preparing highly skilled graduates for entry into the workforce. This belief needs to change. In order to be successful at building a demand-driven credentialing system, industry and other stakeholders will need to take a more active role in ensuring credentials match employers' skill needs.

All of the community colleges where JFF interviewed representatives have worked closely with their local employer partners to identify and develop their educational certificate programs. In the following recommendations, JFF incorporated the strategies where colleges have had the most success. Some of our discussions with college and industry leaders also focused on areas where there may not yet be strong examples of successful strategies to drive credentialing uptake, but that show promise for helping colleges make more informed decisions. The following are four broad ways, each with specific recommendations for action steps, for colleges to get traction on this issue:

1. Let Employers Drive
2. Get Creative with Marketing
3. Shake Up Institutional Culture
4. Remember All Stakeholders

## RECOMMENDATION #1

### Let Employers Drive

Many employers believe that community colleges pay far too little attention to demand from local industry when determining which credentialing programs to develop and what skills to prioritize. Rather, they say, colleges are likely to create new offerings simply because funding is available or because programs in other parts of the country have had success with them. But for educators aiming to design high-quality credentials that regional employers value, meaningful engagement with industry partners is paramount. Community colleges need employers to provide evidence of demand for new credentials, collaborate closely on curriculum design, validate new education programs, and recognize credentials as an important factor in hiring and promotions.

#### **Build more potent partnerships.**

Traditionally, many colleges rely exclusively on twice-a-year meetings of industry advisory committees to interact with employers and seek input on programmatic decisions. But the accreditation bodies that mandate these meetings pack the agendas with required activities, leaving little time for meaningful discussion of credentialing priorities. Finding more effective ways to involve employers and other types of industry representatives such as local and national industry associations—as true program partners—is essential to increasing the value of sub-associate credentials.

- Make the most of relationships with industry advisory committee members and other local employers. Explore alternative meeting formats that prioritize discussions on credentialing and increase meeting frequency to enable employers to become more engaged in credentialing discussions.
- Develop a plan for classroom speakers, site visits, and other activities several months in advance to allow sufficient preparation for high-quality experiences that emphasize the value of credentials.
- Facilitate focused, open, and honest discussions that explore employer awareness of credentials, desire to integrate them into human resource operations, and views of their value in hiring and promotions. Perspective of credentialing trends at a national level is critical to helping inform conversations about why regional or local trends may vary from national trends.

- Conduct targeted internal reviews of credentialing program qualities—i.e., curriculum content, portability, student outcomes, and costs for program development—to ensure they meet local industry needs.
- Allow industry representatives to make an informed, collective decision as to which credentials (if any) would be most appropriate for college partners to develop.
- Leverage existing employer partnerships to catalyze new relationships with employers and industry champions to help drive greater credential uptake.

### **Use labor market data to inform decision making.<sup>28</sup>**

Many interviewees noted that community colleges should do more to take advantage of the broad ecosystem of labor market information to better understand the potential for credentials to meet critical industry needs. (See Appendix C for more information about uses of LMI.) All colleges have access to some forms of LMI, such as traditional job projections and surveys, but they have had mixed success capitalizing on the variety of available data to deepen understanding of in-demand credentials. Acquiring a strong understanding of a regional labor market requires a significant investment of time and personnel, analysis of real-time LMI from online job postings (if available), as well as numerous conversations with industry representatives.

- Conduct greater outreach to employers, industry associations, and other business-focused entities (i.e., chambers of commerce, economic development organizations, etc.) to learn about credential uptake, skills that are in demand, and skills gaps.
- Review traditional LMI projection data and surveys to determine what skills and jobs are in-demand, both now and in the near future, and ensure skills and jobs are mapped back to credentialing programs.
- Incorporate analysis of real-time job posting data—which can help colleges identify the certificates, certifications, and specialized skills that appear most frequently in online job descriptions—into program design considerations.
- Determine nuances of the local economy—regulatory standards, the political environment, and staffing patterns—that can greatly impact the way companies recruit and hire workers.

## **National Credential Registry Aims to Increase Transparency**

The Credential Transparency Initiative, began in 2013 and eventually led to the creation of Credential Engine, a nonprofit organization. Credential Engine, which is sponsored by Lumina Foundation and JPMorgan Chase & Co., is working to bring a greater degree of transparency to the credentialing marketplace.<sup>29</sup> The initiative aims to provide educators and industry with more reliable data about the different types and number of credentials being issued and by whom. The initiative's Credential Registry enables job seekers, educators, workers, students, and employers to research and compare a wide variety of non-degree credentials available in the marketplace, including microcredentials, which traditionally have little to no data available. Community colleges can contribute to this effort by registering their credentials and providing information about quality assurance processes on the Credential Engine website.<sup>30</sup>

### **Measure return on investment even if it means starting small.**

Being able to demonstrate ROI, such as impact on productivity, greatly influences a company's decision about whether to adopt a credential. Colleges that take a proactive approach to outcomes measurement position themselves to achieve greater industry buy-in than those that don't. Even informal means of collecting feedback can help make the case for the value of a credential.

- Gather basic baseline data on industry demand, skills shortages, and program enrollment. Over time, regular updates of this data will allow for comparative analysis of program completions, employer demand, and the skills gap.
- Collaborate with industry to assist in designing a performance and outcomes measurement strategy that provides data specific to both credential holders and companies that hire them. Quantitative data could include metrics such as the need for introductory training, productivity, retention, safety incidents, and overall job performance of credential holders versus workers without the credential.
- Build on efforts already under way to capture ROI data, such as the Return on Investment Calculator produced by The Manufacturing Institute.<sup>31</sup>

## RECOMMENDATION #2

### Get Creative with Marketing

When asked what the greatest barrier to increasing employer adoption of short-term credentials is, nearly all community college representatives pointed to a single common problem: a limited budget for marketing. The lack of funding is particularly challenging for rural colleges, which serve huge geographic areas where access to broadband Internet and cellular phone service is still uneven. But funding of public higher education remains tight across the country and community college marketing budgets are unlikely to increase any time soon. So it is critical for faculty, program chairs, and administrators to think more creatively about how to use existing resources to reach their intended audiences more effectively. Promoting ROI data and testimonials from companies that adopt alternative credentials—and their workers who earn them—can be particularly effective.

#### Make the Most of Social Media and Existing Resources.

- Develop targeted social media campaigns aimed at current and prospective students, local employers, and alumni, highlighting the value of credentials in general, or the value of specific credentials offered by the college. Build these campaigns across multiple social media platforms, update them constantly, and promote their value relentlessly in both online and physical formats.
- Leverage existing lines of communication, events, and partnerships to add a focus on credentialing.
- Consider partnering with state or system staff, or with other local education providers, to develop a campaign on credentialing.

#### TIP: Encourage Tuition Assistance

Work closely with companies that provide tuition assistance to confirm that the credentials your college wants to offer are covered, and that the policy actually provides a time and cost savings to employees who take advantage of the benefit.

#### Leverage Existing Networks.

- Leverage alumni networks by encouraging them to describe the value of credentials when recruiting new students or participating in other community outreach efforts.
- Encourage employers and other industry stakeholders to leverage their networks to publicize the importance and value of credentials, both internally and in their industry networks.
- Engage alumni networks to implement or become part of a marketing and awareness strategy focused on industry credentials. Graduates can help connect college faculty to a wider network of employers, and present an opportunity to expose current students to alumni who are now credential holders and are gainfully employed. **Alumni can also provide valuable insight into the actual and perceived advantages of the credentials they earned.**
- Highlight success stories. Create documents describing the impact of credentials on people's lives, and share these documents with local chambers of commerce, human resources associations, industry associations, or offices of local lawmakers.

#### Expose students, parents, and faculty to in-demand credentials for a variety of industries.

Colleges and employers face an uphill battle when it comes to helping young people and their parents understand the realities of industries such as manufacturing, automotive technology, and the skilled trades. Providing a clear understanding of the high-value, short-term credentials within these industries is an even larger challenge. In addition, ensuring that college faculty have the training and context they need to be able to effectively deliver the curriculum for short-term credentials has become a priority for college administrators. While most companies agree that this type of exposure is critical to closing the jobs and skills gaps, greater collaboration and commitment are required to ensure that outreach activities are happening consistently and that the experiences are interactive, engaging, and informative for all parties.

- Engage local high schools to help educate parents and students about the value of credentials.



Partner with local companies to leverage existing industry awareness events to more intentionally incorporate information about in-demand credentials offered by local colleges. These events should emphasize the importance of the skills attained by earning the credentials, share accounts of their value from hiring managers and frontline supervisors, and highlight the growth in demand for industry credentials in general.

## RECOMMENDATION #3

### Shake up Institutional Culture

As with any attempt to change the status quo in a large, tradition-bound system, developing high-quality, high-value alternative credentials can disrupt the culture at a community college and cause some discomfort. It is important to acknowledge that alternative credentials both challenge and enhance traditional degrees and programs. Similarly, it is helpful to recognize the time, resources, and dedication required to implement cultural changes. Any effort to change institutional culture should be driven by executive-level leadership, developed with input from a diverse set of faculty and staff across the college, and include evidence to support intended outcomes and performance benchmarks.

Secure strong support from college faculty. To win over reluctant faculty, colleges can introduce a college-wide culture shift initiative that emphasizes the following key elements:

- Faculty externships or a “reintroduction” to the industry for faculty that have not worked in the field for several years. This creates an opportunity for the college to collaborate closely with industry partners to develop both workplace and classroom experiences that expose faculty to the latest equipment, processes, and techniques.
- Faculty certification in relevant areas. Some industry-recognized certifications require faculty to be certified to teach the content, helping to increase the degree of engagement faculty feel in the program development process.
- Emphasize the impact high-quality credentials can have on student success in the labor market.

### Speed up program approval processes.

The development and review processes for new credit-bearing programs at community colleges can be complex and inefficient. To the extent that colleges can remain within accreditation guidelines, they should explore the following strategies to create new policies to keep credentials up to date:

- Create separate policies and procedures for credit-bearing technical programs versus credit-bearing nontechnical programs in order to increase technical programs’ ability to quickly adapt to changing credentialing needs.
- Develop a curriculum update protocol that would prioritize the review of urgent or critical curriculum updates, such as those required for newly enacted industry regulations or to provide training or credentials to employees of new companies that have just moved into the region.
- All proposals to change existing curriculum update protocols or create new protocols should include evidence and justification for the need to do so, and demonstrate how the changes will ultimately impact the employability of credential holders and the college’s ability to better meet the needs of industry partners.

### TIP: Transparency = Credibility

Make the credential development process as transparent as possible in order to lend credibility to the program. In addition to including a broad range of employers that are representative of the regional industry, ask participating faculty and staff to prioritize documentation of the information used to make decisions about credential offerings. Colleges should provide clear and concise information about the decision-making process in marketing materials and public outreach efforts.

## TIP: How to Handle Tight Labor Markets

Colleges can increase interest in short-term credentials during tight labor markets by shifting focus from training new hires to a focus on incumbent workers. Working with employers to emphasize credentialed customized training as a career advancement and employee retention strategy can be much more appealing when employers are worried about losing employees to competing businesses. Employers that emphasize professional development for new employees and incumbent workers are demonstrating their commitment to succession planning and investing in their employees.

## RECOMMENDATION #4 Remember All Stakeholders

External stakeholders can be valuable allies in helping community colleges to promote sub-associate credentials to employers. Many business entities—including industry associations, small-business associations, chambers of commerce, and economic development organizations—can play an important role. Workforce development organizations, policymakers, and elected officials also can be strong advocates. All of these groups meet frequently with industry representatives and, with input from community colleges, can make the most of opportunities to help. In addition, workforce development and social service agencies can have a direct impact on credential attainment, which can serve as an indirect way to boost awareness among employers by increasing the number of candidates with certain credentials who apply for jobs.

### **Industry associations and other business groups.**

The majority of community college leaders interviewed for this research have strong relationships with regional, state, or national industry associations. Representatives of industry associations said they recognize the critical role they can play in helping to strengthen the credibility of short-term credentials. Both groups agree that industry associations are one of the primary means by which firms of all sizes become aware of alternative credentials and, as such, should be viewed as a valuable marketing partner.

- Use relationships with industry associations to help bridge the gap between industry and

education. Connect faculty to association events in order to minimize requests for potentially time-consuming outside meetings.

- Demonstrate respect for these relationships by taking care not to “sell” specific credentials to industry. Rather, focus on listening and learning how these key stakeholders can help increase the prominence of alternative credentials and the college programs that provide pathways to them.
- Explore partnerships with chambers of commerce, small-business associations, workforce development agencies, and other business groups to develop standard talking points they can use when discussing industry credentials for which the colleges offer coursework.

### **Workforce development and social service organizations.**

These agencies can help to increase credential affordability, attainment, and awareness. Regional workforce development organizations, which administer the federal Workforce Innovation and Opportunity Act, are potential partners in creating high-value credentialing programs and recruiting students to them. In addition, federal programs that provide financial assistance to low-income people such as Temporary Assistance for Needy Families, Supplemental Nutrition Assistance Program Employment and Training, and community-focused grants often require social service agencies to integrate credential attainment as a priority for receiving funding for occupational training. Both types of organizations also can seek funding to help students pay for training.

- Explore federal funding available through workforce development and social service organizations to help support the cost of credentialing programs for dislocated workers, the long-term unemployed, and other individuals receiving public assistance who may need an entry-level credential to find work.
- Investigate whether your state provides discretionary training funds to industry partnerships, which are often coordinated by workforce development organizations. These funds can help reduce the cost of credentialing programs that are in demand by multiple employers within the partnership.



- Leverage workforce development organizations as marketing partners to help promote credentialing programs through their extensive network of regional service centers, which provide a full range of assistance to jobseekers and training providers.

### **Policymakers and elected officials.**

Most community colleges overlook policymakers and elected officials as potential partners in credentialing efforts. While time demands on these individuals can make developing a meaningful relationship seem unattainable or intimidating, many have significant interest in increasing credential attainment in their regions and helping local employers find qualified workers. Given their broad public recognition, securing their assistance as supporters of short-term credentials can be an extremely effective marketing tool.

- Identify local policymakers and elected officials who have prioritized business and workforce development. Invite them to all public events where credentialing programs are highlighted.
- Discuss the significance of short-term credentials to the strength of the local workforce and ask them to prioritize funding for career pathways and talent development initiatives in high-demand occupations.

### **TIP: Help Employers Connect With Students**

Due to time constraints, engaging employers in a way that benefits both their company and the college program is critical. For example, one college leader we interviewed noted that the institution's most fruitful partnerships have been a result of increased interaction between students and employers, rather than between faculty and employers. Explore incorporating some form of work experience into all courses and credentialing programs offered by the college. This will help employers become accustomed to interacting with students on a regular basis and also expose employers to the skills and competencies students gain through the college's credentialing programs. Also, help students develop a "pitch" that allows them to articulate to employers why they feel their credential makes them better prepared to succeed in the workplace than other job candidates.

# CONCLUSION

The recommendations above address a wide variety of complex and interrelated challenges facing community colleges in their efforts to expand employer demand for short-term credentials. If all of the suggestions were boiled down to one key takeaway, it would be this: colleges need to take seriously their responsibility for engaging employers in meaningful partnerships to inform credential development. The idea may strike some as pretty old fashioned. It's certainly not the kind of "disruptive" innovation that attracts a lot of clicks these days. Indeed, employer engagement relies on old-fashioned in-person human interaction, building relationships gradually over time, and growing to trust one another. But we are convinced it's the most important piece of a multipronged approach to accomplishing the goal of increasing the value of sub-associate credentials.

Still, as we outlined in the recommendations above, there are many other stakeholders and strategies that are important to consider, as well. College staff may wonder where and how to begin. We suggest that colleges start by considering a few basic questions that will help assess the institution's capacity for supporting a strategic credentialing effort. The questions focus on the systems, processes, and relationships currently in place:

- Does the college's strategic plan reflect support for alternative credentialing programs generally?
  - » If so, how?
  - » If not, what specific priorities, policies, or protocols indicate a lack of support?
- Does the college's internal culture prioritize data driven decision making, including standardized procedures for collecting LMI on demand for short-term credentials?
  - » If so, is this process rigorous enough to reliably determine industry demand?
  - » If not, what institutional or community resources could the college tap into to bolster data collection?
- Does the college prioritize employer partnerships and engagement of other stakeholders as strategies to increase credential awareness and demand?
  - » If so, how?

- » If not, what points might persuade leadership that such activities could lead to greater industry demand for job candidates with short-term credentials from the college?
- Does the college already offer any successful short-term credentialing programs?
  - » If so, what factors have contributed to the program's success?
  - » If not, what factors do program faculty believe have posed obstacles to progress?

Upon gaining a clear understanding of a college's strengths and weaknesses with regards to creating high-value credentials, begin thinking about more specific operational questions, such as:

- To what degree do employer partners feel engaged in programmatic design and decision making?
- Do enough employers participate to declare that the group is representative of industry?
- What role, if any, do other external stakeholders play in helping to increase awareness of and demand for short-term credentials?
- How is the college involving students, parents, and alumni in these efforts?

Exploring a college's capacity to support the development of alternative credentials can help leaders identify priority areas of improvement and take immediate steps to leverage strengths and address weaknesses. Ultimately, colleges, employers, and community partners must work collaboratively to design and implement a strategy that complements and leverages their individual efforts. A sustained commitment is crucial in order to create a proven, trusted, high-value system of credential development that helps address the nation's urgent skills shortage.

# APPENDIX A

## METHODOLOGY

The majority of information included in this report was drawn from in-depth phone interviews with community college leaders, industry executives, and other subject matter experts from across the country. Individuals were selected for interviews based on the following: recommendations from JFF staff with expertise in credentialing; review of existing literature that featured the community college, employer, or association; Internet searches for colleges or organizations recognized for their efforts in developing specific types of credentials; recommendations from others interviewed.

Interviewees were selected so as to achieve, to the fullest extent possible, representation of a variety of geographic regions, industry sectors, and types of credentials offered. However, given the relatively small number of interviews conducted to inform this report, JFF acknowledges that this research may not be representative of all community college programs or employer viewpoints.

JFF staff conducted interviews with national industry experts during October and November 2016. The majority of subsequent interviews, which focused on statewide or regional community college representatives, took place during January and February 2017.

We would like to thank the following individuals for contributing to this research:

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### HIGHER EDUCATION

**City Colleges of Chicago:** Meredith Sparks Ament, *Senior Associate Vice Chancellor, Strategy and Academic Governance*

**City Colleges of Chicago—Daley College:** Christopher Sala, *Director of Workforce Partnerships*

**Colorado Community College System:** Brenda Perea, *Instructional Design Project Manager*

**Community College of Denver:** Rhonda Epper, *Vice President for Academic Affairs and Provost*; Stephanie Harris, *Dean, Health Sciences*

**Delgado Community College (New Orleans, Louisiana):** Maria Andrade, *Workforce and Technical Education Coordinator*

**Estrella Mountain Community College (Avondale, Arizona):** Steven Melessa, *Faculty, Manufacturing Technology*

**Florida Advanced Technological Education Center:** Marilyn Barger, *Principal Investigator*

**Florida Department of Education:** Sean Friend, *Bureau of Budget, Accountability, and Assessment*; Tara Goodman, *Bureau Chief, Budget, Accountability, and Assessment*

**Ivy Tech Community College of Indiana:** Sue Griffith Smith, *Vice President, Technology and Applied Science*

**Linn-Benton Community College (Albany, Oregon):** Gary Price, *Regional Director for Linn County*

**Northeast State Community College (Blountville, Tennessee):** Jeff Frazier, *Dean of the Regional Center for Advanced Manufacturing, Employee of Eastman Chemical*; Cindy Tauscher, *Director of Workforce Solutions*

**South Seattle College—Georgetown Campus:** Daniel Dillard, *Associate Dean*; Holly Moore, *Executive Dean*; Jason Petrait, *Director of Special Projects*

## BUSINESS AND INDUSTRY

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**Center for Energy Workforce Development:** Ann Randazzo, *Executive Director*

**CISCO:** Carroll McGillin, *Former Senior Manager, Education (Retired)*

**CompTIA:** Gretchen Koch, *Executive Director of Workforce Development Programs*

**Greater Metro Denver Health Partnership:** Jeana Capel-Jones, *Chairperson*

**Harris Corporation:** Michael Ennis, *Manufacturing Engineer*

**Illinois Manufacturing Association:** Jim Nelson, *Vice President*

**Interstate Renewable Energy Council:** Laure-Jeanne Davignon, *Director of Workforce and Credentialing*; Anna Sullivan, *Credentialing Services Manager*; Jane Weissman, *Former President/CEO (Retired)*

**The Manufacturing Institute:** Brent Weil, *Senior Vice President for Education and Workforce*

**PeopleReady:** Sherrie Taylor, *Market Recruiter*

**Professional Testing Inc.:** Christine Niero, *Vice President*

## NONPROFIT

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**Aspen Institute:** Josh Wyner, *Executive Director, College Excellence Program*

# APPENDIX B

## HOW TO CHOOSE THE RIGHT TYPE OF CREDENTIAL

### Comparing Certificates, Certifications, and Credentials from Third-Party Providers

Choosing the right type of credential to meet industry needs can be challenging for any community college. However, there are a few basic questions that colleges can consider that may help in determining which credential will effectively meet industry needs and still be financially viable and sustainable for the college over time. Keep in mind that, in some circumstances, industry needs are so specialized that it may not be in the best interest of the college to offer the training.

Take this short quiz and tally your points to learn more about which types of credentials may work best in your college's context. Keep in mind that these questions are intended as a starting point; they are key considerations to explore with college administrators and employer partners. Additional data collection is needed to make a fully informed decision that will address the specific needs of the college and partners.

- |                       |   |                      |
|-----------------------|---|----------------------|
| <b>Yes - 1 pt.</b> ←  | Are there existing credentials that could potentially meet this training need?  | → <b>No - 2 pts.</b> |
| <b>Yes - 1 pt.</b> ←  | Is the industry a significant economic driver in your region?   | → <b>No - 2 pts.</b> |
| <b>Yes - 2 pts.</b> ← | Will the curriculum need to be highly customized to meet unique skill needs or state or regional standards and regulations? | → <b>No - 1 pt.</b>  |
| <b>Yes - 1 pt.</b> ←  | Is the occupation part of a well-established career pathway?  | → <b>No - 2 pts.</b> |
| <b>Yes - 1 pt.</b> ←  | Does industry have a strong established relationship with the college?  | → <b>No - 3 pts.</b> |
| <b>Yes - 2 pts.</b> ← | is this a training need that is shared by many employers throughout the region?   | → <b>No - 3 pts.</b> |
| <b>Yes - 2 pts.</b> ← | Will the curriculum need to be updated frequently to incorporate new regulations or technologies?                           | → <b>No - 1 pt.</b>  |
| <b>Yes - 2 pts.</b> ← | Is there a long-term, sustained need for this training?   | → <b>No - 3 pts.</b> |
| <b>Yes - 2 pts.</b> ← | Does the college currently have the faculty and equipment to deliver the requested training?                                | → <b>No - 3 pts.</b> |

**12 - 15 points:** Certifications. Given the presence of this industry in your local economy and the needs of your employers, consider identifying and offering coursework for an established industry-recognized certification or series of stackable certificates that provides students with portable, in-demand credentials to advance upward along a career pathway over time. If no industry-recognized certifications currently exist, consider developing homegrown certificates with the close cooperation of your employer network, industry associations, and the credentialing bodies in your region.

**16 - 19 points:** Certificates. Consider developing an educational certificate in house by utilizing the input and expertise of the tight network of employers in your region that need a training program that is flexible and customized to meet their specific skill needs. Go a step further by examining the demand for a set of stackable certificates for occupations in which viable career pathways exist.

**20 or more points:** Pursue an Alternative Provider. Balancing the short-term, highly customized, niche training needed by just a few employers and the potential challenges involved in hiring new faculty and purchasing new equipment, it may be in the best interest of the college to work closely with industry to find a way to address this need through another training provider.

# APPENDIX C

## HOW REAL-TIME LABOR MARKET DATA CAN ILLUMINATE CREDENTIAL UPTAKE

Real-time labor market information has become a useful resource for analyzing the prevalence of short-term credentials within online job postings. Though real-time LMI is not a precise indicator of demand because certain fields, such as construction and hospitality, rarely post jobs online, it has the potential to reveal other relevant information about how local companies view short-term credentials.

### Searching Correlation Between Job Titles and Credentials

Real-time LMI can help identify the correlation between job titles and credentials by analyzing which ones appear together in job descriptions. Jobseekers holding credentials can perform a targeted search for job titles associated with their credentials. Real-time LMI also can help people identify which credentials are requested in descriptions of jobs that interest them most. Results from examples of these two search types are below:

#### Top 10 Job Titles Requesting CISCO Certified Network Associate Certification

Job Title	Job Postings
Network Engineer	10,714
Network Administrator	2,768
Systems Engineer	1,873
Systems Administrator	1,577
Security Engineer	976
Network Analyst	795
Senior Systems Engineer	606
Network Technician	572
Network Security Engineer	539
Sales Engineer	497

#### Top 10 Certifications Appearing in Search for Job Title of “Computer Programmer”

Certifications	Job Postings
Security Clearance	114
Microsoft Certified Solution Developer	28
Oracle Certification (e.g., Oracle Certified Associate)	25
CISCO Certified Network Professional	23
Database Administrator	23
Security+	17
Network+ Certified	10
Systems Security Certified Practitioner	10
Certified A+ Technician	8
CISCO Certified Network Associate	5

Source: Labor Insight Jobs (Burning Glass Technologies). July 2016—August 2017; Nationwide



## Examining Credential Preferences of Specific Employers

Real-time LMI also can be helpful by showing jobseekers which credentials are required or preferred by specific companies. In order to increase their competitiveness, students can use this information to identify and pursue credentials that appear frequently in a company’s job listings. It also can be used to identify which companies favor specific credentials. Results from examples of these two search types are below:

### Top 10 Credentials Found in General Motors Job Listings

Certifications	Job Postings
Six Sigma Black Belt	429
Six Sigma Certification	224
Six Sigma Green Belt	188
Certified Public Accountant	148
Project Management Certification (e.g., Project Management Professional)	138
U.S. Department of Labor	138
Certified Information Systems Security Professional	98
SANS GIAC Certification	60
ASE Certification	59
Information Technology Infrastructure Library	55

### Top 10 Employers noting ASE Certification in Job Descriptions

Employer	Job Postings
Bridgestone/Firestone	6,873
O’Reilly Automotive Inc.	2,070
Pep Boys	1,732
Sears	1,655
Transervice Logistics	1,533
Advance Auto Parts Incorporated	1,510
Ta Petro	1,082
O’Reilly Retail / Store Counter	978
Carmax	886
Monro Muffler Brake	841

Source: Labor Insight Jobs (Burning Glass Technologies). July 2016—August 2017; Nationwide

## Colleges Can Encourage Employers to Include Credentials in Online Job Postings

In addition to the benefits, real-time LMI has limitations, as well. A recent nationwide analysis of real-time job posting data by Burning Glass shows that only 9 percent of manufacturing and production job listings reference any type of skills certification or credential (see table below). Review of information technology, an industry using numerous industry-recognized certifications and credentials, shows only 18 percent of job listings referencing any type of certification. For industries such as health care and transportation, where certain credentials are required by law for employment, the percentage of postings listing credentials is much higher. However, even in industries such as manufacturing and information technology, where numerous sub-associate credentials exist, real-time job posting data still does not reflect widespread demand for these certifications or certificates. Working with employers to update job descriptions and postings to include preferred certificates and certifications for hire is an important step for colleges to take in driving greater awareness of and interest in these types of credentials.

### Job Listings by Occupational Family that Reference a Non-Degree Credential

<b>Burning Glass Occupational Families<sup>32</sup></b>	<b>Percentage of All Job Listings that Reference a Non-Degree Credential</b>
Health Care	56%
Transportation	48%
Maintenance Repair and Installation	22%
Engineering	19%
Information Technology	18%
Science and Research	17%
Construction, Extraction, and Architecture	15%
Manufacturing and Production	9%
Hospitality, Food, and Tourism	8%

Source: Labor Insight Jobs (Burning Glass Technologies). July 2016—August 2017; Nationwide

## ENDNOTES

- 1 Clive Belfield and Thomas Bailey, *The Labor Market Returns to Sub-Baccalaureate College: A Review, A CAPSEE Working Paper* (New York: Center for Analysis of Postsecondary Education and Employment, 2017).
- 2 Anthony P. Carnevale, Nicole Smith, and Jeff Stroh, *Help Wanted: Projections of Jobs and Education Requirements Through 2018* (Washington, DC: Georgetown University Center on Education and the Workforce, 2010).
- 3 Attainment grew from just under 730,000 awards in the 2006-07 academic year to nearly 970,000 awards in the 2013-14 academic year. National Center for Education Statistics, “Degrees/Certifications Conferred by Postsecondary Institutions, By Control of Institution and Level of Degree,” *Digest of Educational Statistics, 1970-71 through 2013-14*, table 318.40, [https://nces.ed.gov/programs/digest/d15/tables/dt15\\_318.40.asp](https://nces.ed.gov/programs/digest/d15/tables/dt15_318.40.asp)
- 4 Anthony P. Carnevale, Tamara Asunder, and Andrew R. Hanson, *Career and Technical Education: 5 Ways That Pay* (Washington, DC: Georgetown University Center on Education and the Workforce, 2012).
- 5 Matthew Giani and Heather Lee Fox, “Do Stackable Credentials Reinforce Stratification or Promote Upward Mobility? An Analysis of Health Professions Pathways Reform in a Community College Consortium,” *Journal of Vocational Education & Training* 69, no. 1 (2016).
- 6 In 2012, public two-year colleges awarded 52 percent of all certificates across the United States. Anthony P. Carnevale, Stephen J. Rose, and Andrew R. Hanson, *Certificates: Gateway to Gainful Employment and College Degrees* (Washington, DC: Georgetown University Center on Education and the Workforce, 2012).
- 7 *Call for a National Conversation on Creating a Competency-based Credentialing Ecosystem* (Washington, DC: CLASP, 2014).
- 8 Giani and Fox, “Do Stackable Credentials Reinforce Stratification or Promote Upward Mobility?”.
- 9 Ibid.
- 10 In 2015, Lumina Foundation and Corporation for a Skilled Workforce joined together to establish the Connecting Credentials initiative and call for a national dialogue on how to build a better credentialing system. More than 100 organizations, including JFF, are co-sponsors. For information, see [ConnectingCredentials.org](http://ConnectingCredentials.org) and the *Connecting Credentials Action Plan* published in September 2016.
- 11 See: [www.connectingcredentials.org](http://www.connectingcredentials.org)
- 12 This paper does not cover professional licenses, which typically are granted by government agencies and allow an individual to perform regulated tasks or occupations, such as electricians and massage therapists. It is also important to note that some credentials require two years or more of study, as they have been designed to be equivalent to an associate degree or even a bachelor’s degree, depending on the provider. Other credentialing programs assume or require that an individual has already achieved an associate or bachelor’s degree prior to enrolling in the coursework, such as many coding “boot camps.”
- 13 *Defining Features of Quality Certification and Assessment-Based Certificate Programs* (Washington, DC: Institute for Credentialing Excellence, 2010).
- 14 Formal learning assessments often consist of proctored exams administered at approved locations that have been certified by the credentialing body. Informal learning assessments are generally developed by the educational institution offering the program and are administered in a classroom or lab setting by program faculty with the certificate awarded upon achievement of a passing grade.
- 15 *What is a Credential?* (Alexandria, VA: Association for Career and Technical Education, 2015).
- 16 Knapp & Associates International Inc., “Micro-credentials: Is Small the Next Big Thing?” (PowerPoint presentation, October 2014 Town Hall Proceedings, October 2014).
- 17 See: <https://www.edx.org/micromasters>
- 18 Anna Sullivan, “Promising New Pathway: Case Study in Micro-Credentials,” Up Front: The IREC Blog, March 7, 2016, <http://www.irecusa.org/2016/03/promising-new-pathway-case-study-in-micro-credentials/>

- 19** Author interviews with Brenda Perea, instructional design project manager, Colorado Community College System, December 7 and 19, 2017.
- 20** See: <https://www.cccs.edu/education-services/badges/>
- 21** Figure 1 aims to provide readers with a general sense of the characteristics of each type of credential, not a definitive definition. It describes the most common, or typical, attributes of these types of credentials with the understanding that there are exceptions to these attributes.
- 22** Formal learning assessments often consist of proctored exams administered at approved locations that have been certified by the credentialing body. Informal learning assessments are generally developed by the educational institution offering the program and are administered in a classroom or lab setting by program faculty with the certificate awarded upon achievement of a passing grade.
- 23** See: “Credential Resource Guide—TEGL 15-10 Attachment 2,” WorkforceGPS, last modified April 17, 2016, [https://taaccct.workforcegps.org/resources/2016/04/17/13/03/Credential\\_Resource\\_Guide\\_-\\_TEGL\\_15-10\\_Attachment\\_2](https://taaccct.workforcegps.org/resources/2016/04/17/13/03/Credential_Resource_Guide_-_TEGL_15-10_Attachment_2) These recommendations reflect knowledge gained through interviews conducted for this paper as well as information compiled from the following reports: Deborah Everhart, Evelyn Ganzglass, Carla Casilli, Daniel Hickey, and Brandon Muramatsu, “Quality Dimensions for Connected Credentials,” (Washington, DC: The American Council on Education, 2016); *Call for a National Conversation*, 2014.
- 24** *What America Needs to Know About Higher Education Redesign* (Washington, DC: Gallup; Indianapolis, IN: The Lumina Foundation, 2014).
- 25** Educational program industry advisory committees are developed by educational programs and composed of industry leaders and representatives from their service regions. They come together at least twice a year to review curriculum content and core competencies, and help identify needed changes based on industry demand and evolving skill needs.
- 26** *Credentials of Value: State Strategies for Identifying and Endorsing Industry-Recognized Credentials* (Silver Spring, MD: Advance CTE, 2016); author interview with Tara Goodman, bureau chief, and Sean Friend, CAPE industry certification manager, Bureau of Budget, Accountability, and Assessment, Florida Department of Education, February 7, 2017.
- 27** Author interview with Meredith Sparks Ament, senior associate vice chancellor for strategy and academic governance at City Colleges of Chicago, January 23, 2017.
- 28** Add brief explanation of LMI from original methodology, and refer to Appendix C.
- 29** See: [www.credentialengine.org](http://www.credentialengine.org)
- 30** Ibid.
- 31** “Return on Investment Calculator,” Manufacturing Institute, <http://www.themanufacturinginstitute.org/Skills-Certification/ROI-Calculator/ROI-Main.aspx>
- 32** To demonstrate this data across industries, a wide range of industry-specific occupational families were included in the analysis. Occupational families are clusters of occupations within an industry that have been developed by Burning Glass and adapted from the U.S. Bureau of Labor Statistics SOC and O\*NET codes. Occupational families use real-time analyses of job titles, skills, and educational requirements to accurately reflect current employer demand.



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