

Promising Practices: Certification Plus Degree Pathways



About the Author



Higher Learning Commission

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HLC is an independent agency, founded in 1895, that accredits degree-granting colleges and universities in the United States. HLC is an institutional accreditor, accrediting the institution as a whole. HLC's mission is to advance the common good through quality assurance of higher education as the leader in equitable, transformative and trusted accreditation in the service of students and member institutions.

About the Publication

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Grant Partners



Community College of Aurora

16000 E. CentreTech Parkway

Aurora, CO 80011

<https://ccaaurora.edu>

The Community College of Aurora (CCA) is a two-year public, open access institution in Aurora, Colorado and is one of 13 community colleges in the Colorado Community College System. The school of choice for 12,111 students representing over 60 countries, CCA's service area includes nearly 690,000 residents in Arapahoe, Adams, and Denver counties, and its student population reflects the broad diversity of this area. The college offers 77 degrees and certificate programs for students seeking to enhance their current skill set, pursue employment, or transfer to a four-year college or university upon graduation.



Delta College

1961 Delta Road
University Center, MI 48710
<https://www.delta.edu>

Delta College opened in 1961 and now enrolls nearly 9,000 students annually. The mid-Michigan college lies midway between the cities of Saginaw, Bay City, and Midland and offers students nearly 150 transfer and career associate degree and certificate programs. Delta College significantly impacts the local economy by providing a trained and ready workforce. Today, the college continues to lead the way in education for vital fields like healthcare, technical trades, and computer science.



Kirkwood Community College

6301 Kirkwood Boulevard
SW, Cedar Rapids, Iowa 52404
<https://www.kirkwood.edu>

With more than 140 majors and programs, Kirkwood Community College boasts 16,000 annual college-credit students, while maintaining one of the lowest tuitions in the state. All degree-seeking students are eligible for federal financial aid and the college offers more than \$3 million in scholarships each year to students from all walks of life. Kirkwood is a convenient, innovative and visionary educational leader that strives to remain affordable and accessible.



Moraine Valley Community College

9000 College Pkwy
Palos Hills, Illinois 60465
<https://mvcc.edu>

Moraine Valley Community College District 524 is a two-year institution of higher education founded in 1967. Located in Palos Hills, the college serves 26 communities in the southwest suburbs of Chicago and offers more than 140 degree and certificate programs accredited by the Higher Learning Commission. Students interested in transferring to four-year colleges or universities can earn associate degrees in six different disciplines. The college also offers classes and programming at its Education Center at Blue Island and Southwest Education Center in Tinley Park.



The League for Innovation in the Community College

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Chandler, Arizona 85286
<https://www.league.org/>

The League for Innovation in the Community College (League for Innovation) is an international nonprofit organization with a mission dedicated to cultivating innovation in the community college environment by forging strategic partnerships and empowering individuals to drive educational transformation. Founded in 1968 by B. Lamar Johnson and a dozen U.S. community and technical college presidents, the League for Innovation has proudly served community college institutions for 57 years.



Workcred, Inc.

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Formed in 2014, Workcred is an affiliate of the American National Standards Institute (ANSI). Its mission is to strengthen workforce quality by improving the credentialing system, ensuring its ongoing relevance, and preparing employers, workers, educators, and governments to use it effectively. Workcred's vision is a labor market that relies on the relevance, quality, and value of workforce credentials for opportunities, growth, and development.

About Certification + Degree Pathways

The practice of embedding industry credentials like certifications into degrees (C+D pathways) is common at community colleges.¹ Embedding refers to a college's alignment of its degree curriculum with an industry credential, although the approach a college may take varies as it seeks to better serve its learners and leverage its existing resources. A 2017 study among 149 U.S. colleges and four-year institutions by Lumina Foundation found that the most commonly cited benefit of C+D pathways was that it enabled students to earn valuable industry and academic credentials at the same time.² The study also showed that C+D pathways helped colleges and universities align their curricula with prevailing industry standards.

Certifications are distinct from other credentials because they are awarded after an individual demonstrates acquisition of a set of skills through a standardized assessment (e.g., oral, written, or performance-based). Additionally, certifications must be renewed after a designated period of time and can be revoked for incompetence or unethical behavior. Individuals must meet qualifications such as training and experience that are required pre-requisites to take the certification examination. According to Credential Engine, more than 7,000 industry-recognized certifications are offered across numerous industry sectors including healthcare, education, finance, IT, cybersecurity, manufacturing, retail, and hospitality.³

1 Michael Prebil and Mary Alice McCarthy, Building Better Degrees Using Industry Certifications Lessons from the Field (New America, Education Policy, and Center on Education & Skills, September 17, 2018), <https://www.newamerica.org/education-policy/reports/building-better-degrees-using-industry-certifications>.

2 Holly Zanville, Kelly Porter, and Evelyn Ganzglass, Report on Phase I Study: Embedding Industry and Professional Certifications within Higher Education (Lumina Foundation, January 2017), <https://www.luminafoundation.org/files/resources/report-on-phase-i-study-embedding-industry-professional-certifications-within-higher-education-january-2017.pdf>.

3 Counting U.S. Postsecondary and Secondary Credentials (Credential Engine, 2022), https://credentialengine.org/wp-content/uploads/2023/01/Final-CountingCredentials_2022.pdf.



About the Project

This project brought together a unique group of partners to explore effective ways to develop and launch new C+D pathways. Workcred, the Higher Learning Commission, and the League for Innovation in the Community College were joined in this endeavor by four community colleges—Community College of Aurora, Delta College, Kirkwood Community College, and Moraine Valley Community College.

The following eight pathways, two at each institution, were developed as part of this project.

Community College of Aurora

- **Pathway 1.** Behavioral Health Plus Microcredential + Qualified Behavioral Health Assistant Microcredential + Behavioral Health Assistant II Microcredential + Patient Navigator Microcredential + Addiction Recovery Assistant Microcredential + Associate of Applied Science (AAS) Degree in Mental Health and Social Work or Addiction Recovery + Bachelor of Applied Science (BAS) Degree in Mental Health and Wellness or Addiction Recovery
- **Pathway 2.** Bridge Programming + Phlebotomy Certificate + Certified Nursing Aide (This pathway is currently paused due to instructor availability.)

Delta College

- **Pathway 1.** Google IT Support Certificate + CompTIA A+ Certification + IT Support AAS Degree
- **Pathway 2.** Google IT Support Certificate + CompTIA Security+ Certification + Cybersecurity AAS Degree

Kirkwood Community College

- **Pathway 1.** VMware Certified Technical Associate-Data Center Virtualization Certification + CompTIA A+ Certification + Cisco Certified Network Associate Certification + Network and System Administration AAS Degree
- **Pathway 2.** CompTIA A+ Certification + AWS Certified Cloud Practitioner Certification + Computer Support Specialist AAS Degree

Moraine Valley Community College

- **Pathway 1.** Microsoft Certified: Azure Fundamentals Certification + Microsoft Certified Azure Administrator Associate Certification + Microsoft Certified Azure Security Engineer Associate Certification + Computer and Local Area Networks AAS Degree
- **Pathway 2.** Medical Coding Specialist Certificate + a variety of Medical Coding or Health Information Technology Certifications + Health Information Technology AAS Degree (Although this pathway was established prior to this project, it was included to highlight the need to obtain aggregate and/or student-level certification exam data results.)

This publication is part of a series of reports developed to highlight all or some of the C+D pathways from each of the colleges that participated in this project, as well as the common challenges and insights that were uncovered during this project. Further details can be found in the following related publications:

- [Building Credentialing Pathways Using Credit for Prior Learning: A Case Study about Delta College](#)
- [Creating Credentialing Pathways in Behavioral Health: A Case Study about Community College of Aurora](#)
- [Designing Credentialing Pathways in IT: A Case Study about Kirkwood Community College](#)
- [Medical Coding and Health Information Technology Pathways: A Case Study about Moraine Valley Community College](#)
- [HLC's Promising Practices: Certification Plus Degree Pathways](#)
- [How Certification Bodies Can Support Colleges' Efforts to Integrate Certifications into Academic Programs](#)
- [Playbook for Certification + Degree Pathways](#)

Introduction

A growing trend in higher education involves embedding industry-recognized certifications into degree programs. This approach provides opportunities for learners to demonstrate mastery of occupationally relevant skills that are mapped into degree coursework. This practice strengthens the connection between academic learning and workforce needs and enables graduates to demonstrate both academic achievement and verified professional competencies.

Institutions that successfully embedded certifications in degree programs ensure the programs align with institutional mission, local and regional labor market demands, and student success goals.

With generous funding by ECMC Foundation, a unique group of partners explored effective ways to develop and launch new C+D pathways. Workcred, the Higher Learning Commission, and the League for Innovation in the Community College were joined in this endeavor by four HLC members—Community College of Aurora, Delta College, Kirkwood Community College, and Moraine Valley Community College.

Four HLC-member community colleges participated in a three-year project focused on certification and degree (C+D) Pathways, which offered the involved community colleges an opportunity to align degrees with industry needs and provide new pathways to the workforce. C+D Pathways provided opportunities for learners to master occupationally-relevant skills that can lead to living wage jobs while continuing their education on to an associate's degree. In some instances, learners qualified for positions based on the certifications earned and were able to earn and learn at the same time.

HLC's role in the project was to identify how the C+D Pathways could be considered within the context of accreditation processes. The institutions provided feedback throughout the length of the grant that informed this publication, highlighting issues to consider and forms of evidence that could be utilized during HLC accreditation reviews.

Lessons Learned

Institutions emphasized that consistent, engaged leadership — particularly from the executive team — was essential in guiding priorities and supporting the initiative.

Participants stressed the importance of building partnerships across internal siloes to launch programs and address barriers. Areas noted included Academic Affairs, Technology, Workforce Development/Corporate Services, Distance Education, Contracts and Budgeting, and Career Development.

Building these bridges took considerable time in the first year of the initiative. Engagement with the institution's Accreditation Liaison Officer (ALO) was described as a key factor in sustaining progress throughout the initiative.

Institutional leadership was closely tied to program development, helping ensure programs stayed aligned with institutional goals. All participating institutions emphasized the importance of identifying industry needs and making sure certification competencies were mapped into academic programs.

When the program led to licensure, institutions focused on course sequencing. Extra effort was put into aligning curriculum with exam content so learners were both prepared and familiar with the way questions would be presented.

Institutions worked to pinpoint where students were succeeding and which content areas needed additional attention. Some also noted a shift away from previously offered stand-alone certificate programs (or courses for certification) toward degree programs with embedded certifications, with attention to the stackability and portability of courses taken so students could continue a pattern of lifelong learning.

In one example, special attention was given to lab environments controlled by the institution's Technology department, which needed to integrate with a vendor (e.g., Microsoft) in order to sync with the vendor's live training labs. This required careful management of permissions and controls, underscoring the logistical challenges of coordinating technology and instruction.

The role of external workforce advisory groups was highlighted, with participants noting how they provided ongoing, systematic feedback that informed program design and helped ensure alignment with industry needs.

The timing of awarding grades was an issue that was raised when a student passed the certification before the course ended. In these cases, the student sometimes received a course grade based on exam performance. Institutions discussed the potential impact on federal student aid if the seat-time model was not followed, even though students had clearly demonstrated course outcomes.

One institution highlighted the process of moving from a “noncredit” concept to a “career credential” focus. This shift to a value-oriented credential required adjustments in advising practices to guide students through credential pathways and the need to emphasize the importance of outlining the value of certifications so learners clearly understood their relevance in workforce and academic contexts. Institutions stressed that learning should be recognized regardless of whether they were offered with or without credit being earned.

Another topic receiving attention was the operation of testing centers. Key issues included restarting services (paused during the pandemic) and determining appropriate locations—on-campus or off-campus—with the latter raising concerns about time and travel costs. Participants also pointed to exam fees (typically \$100–\$250 each) and the role of external vendors (e.g., Pearson) in managing the centers. Privacy concerns were also raised, since some proctoring protocols used by the external vendors did not align with institutional policies.

Funding models to support certification exams were discussed throughout each phase of development and delivery of the programs. Approaches included embedding exam fees into courses, sometimes offering them for free even though industry costs could exceed \$1,000. Some campuses explored volume purchase pricing with discounted vouchers available through the bookstore. Early in the initiative, exam costs were covered by grant funds, but participating institutions raised concerns about how to support learners who needed to retake exams. Institutions also explored the utilization of U.S. Department of Labor funds and partnerships with state agencies to cover exam costs.

Discussions about documentation of certifications earned as part of the C+D Pathway needed to be included on transcripts in order to track success thresholds for students who left before completing a degree but after earning certifications. Linking industry certifications back to student transcripts was important for capturing learner progress.

Data also played a central role in the initiative. Participants recommended making cohort pass rates visible, both for internal tracking and for sharing results with workforce partners. Exam reporting was another area of focus, with institutions pointing to challenges in obtaining detailed results from certification bodies. Participants emphasized the importance of using exam feedback to identify content areas needing more attention and ensuring testing or certification bodies shared pass/fail information with institutions.

Specialized accreditation and licensure requirements were also part of the discussions, along with the challenges of marketing programs while they were under review or awaiting approval by state agencies and/or accrediting bodies. Participants noted issues related to student success reporting—including financial aid eligibility and cases where students departed after earning certifications but before finishing their degrees.

Demonstrating Quality with C+D Pathways

As part of this initiative, institutions were asked to identify evidence, used for or created during the grant period, that could be linked to HLC's Criteria for Accreditation.

HLC encourages institutions to provide evidence that is relevant and persuasive within the context of the institution's mission, student population, and institutional type and sufficient to demonstrating its compliance with the Criteria. The sources listed below are not exhaustive, and the institution may and should provide different information relevant to its specific mission and setting. Depending upon the institution's sector, type or circumstances, some of the examples will not be applicable. Further, institutions are not required to use these examples and peer reviewers should defer to institutional determinations instead of requiring any of the sources listed.

Criterion 1: Mission

Evidence Suggestions:

- C+D program alignment with mission, vision and values
- Strategic plan outlining program development priorities
- Certification-aligned IT pathways developed for high-demand areas (CCNA, AWS, VMware), aligned with institutional programming
- Conversations and programs developed in partnership with industry and advisory boards
- Center for STEM, Power Mechanics, and Applied Technologies
- Onsite testing center (e.g., PearsonVUE) increases accessibility and convenience for students
- Opportunities for C+D students to participate in: globally focused courses, student clubs, diversity training, and required course enrollment to meet a state requirement
- Community engagement through events, non-credit offerings such as ESL and citizenship classes, and civic involvement by faculty and staff
- Labor market reviews
- Demographic data of C+D students (race, gender, first-generation, Pell-eligible)
- Institution metrics spreadsheet
- Alumni surveys
- Global learning data

Criterion 2: Integrity: Ethical and Responsible Conduct

Evidence Suggestions:

- Board policies
- Bylaws
- Faculty contracts
- Faculty collective bargaining agreement
- Academic Integrity policies as stated in syllabi language
- Audit practices
- Equity audits of access to certifications
- Institutional Review Board
- Meeting notes – Advisory Board, Faculty Senate, Chairs Council, Deans Council
- College guidelines repository
- College catalog
- Student handbook

- Marketing information for C+D programs
- Online communications
- Institutional website
- Student recruitment and enrollment processes documented
- Student course evaluation
- Student climate survey
- Student comprehension of certification value
- Faculty autonomy reflected in differing certification preparation strategies
- Faculty involved in aligning instruction with certification expectations have obtained the credential
- Explain of certifications emphasize job-ready skills and hands-on application

Criterion 3: Teaching and Learning for Student Success

Evidence Suggestions:

- Program and course development process (CDG and CRT)
- Course syllabi
- College Catalog
- Meeting notes – Advisory Board, Curriculum Council
- Linkages to Common Course Numbering System (CCNS)
- C+D pathway integrated into NASA and CSS programs
- Experiential learning documented
- Access to learning laboratories
- Assessment processes
- Linkage to State-wide Transfer Agreement
- Courses focus on research, problem-solving, and understanding systems (not just test prep)
- Employer feedback
- Number and type of faculty and staff with MQTs (Minimum Qualifications to Teach), including certification being taught in the program
- FTE data for staff supporting C+D pathway
- Faculty collective bargaining agreement
- Student supports include clubs and tutoring
- Orientation and advising processes for the C+D programs
- Resources in the Teaching and Learning Transformation Hub
- Implementation of certificate-specific preparation and on-site testing protocols
- LMS analytics
- Faculty professional development logs
- Program and course-level assessment data
- Learning outcomes (as appropriate): Institutional, General Education, Academic Program, Co-Curricular
- Integrative online strategic planning database
- Certification pass rates tracked and used to revise instruction
- Institutional Metrics Spreadsheet (appeared 2 times in source list)
- Internal program assessment reports
- Comparative analysis (e.g., pre/post-certification testing)

- Full integration of C+D into cyclical program review
- State agency mandated program reviews (five-year cycle)
- Program review guidebook and documentation
- Adjustments made to certification offerings based on student performance and faculty feedback
- Faculty and department chairs receive training after program reviews
- Instructional videos created to help faculty recall program review information
- Student Success Metrics dashboard
- Demographic data of learners in C+D and comparison to learners enrolled in similar programs, but without embedded certifications
- Data on CPL applications, costs, and methods used for earning CPL (portfolio, testing, industry credentials, military training, etc.), along with demographics of students using those methods
- State employment databases

Criterion 4: Sustainability: Institutional Effectiveness, Resources and Planning

Evidence Suggestions:

- Collaboration with advisory boards
- Community partnerships
- Program coordinators for C+D Pathways
- Strategic plan
- Organizational chart
- Faculty–industry collaboration
- Internal logistics for test center setup and operations
- Budgets including staffing data; faculty/learner ratios
- Financial Forecasting
- Student tracking plans
- Institutional effectiveness enrollment forecasting

Accreditation and State Agency Focus

Institutions described the importance of aligning with accreditation and state agency expectations.

For HLC institutions, this included the approval of new programs, beginning with the [Screening Form for Changes to Existing Programs](#) to determine whether notification or a full application was needed, followed by the application process with an awareness of the timeline to move through the process to a final action.

For certification, participants noted that requirements varied between notification and approval. While the programs in the initiative were new, there was discussion that modifying existing programs by more than 25%, to include the addition of the certifications and corresponding curriculum, would typically need to be reported through the notification process (for most institutions).

State agencies may also need to be engaged and institutions are encouraged to determine what approvals or notifications may be needed for C+D Pathway programs.