Maryland
GWDB CTE COMMITTEE

Career and Technical Education: Industry-Recognized Credentials

Policy on Industry-Recognized Credential Definition and Criteria, Approval and Review Process, and List of State-Approved Credentials Under the *Blueprint for Maryland's Future*

Governor's Workforce Development Board
Career and Technical Education Committee
Policy Issuance 2024-01

December 2024

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The Governor's Workforce Development Board is grateful to the staff of the Maryland State Department of Education who made extensive contributions to this policy, as well as the hundreds of industry representatives, educators, workforce development professionals, and other constituents who contributed valuable insight during its development.

Policy Issuance 2024-01

TO: Maryland State Department of Education; Maryland Department of Labor; Maryland Higher Education Commission; Local Education Agencies; Maryland Community Colleges; Maryland Local Workforce Development Boards; employers; and other pertinent agencies and stakeholders

FROM: Governor's Workforce Development Board CTE Committee

DATE: December 4, 2024

SUBJECT: Policy on Industry-Recognized Credentials Under the *Blueprint for Maryland's Future*

PURPOSE: To provide policy guidance on defining industry-recognized credentials of value and on the CTE Committee-approved list of industry-recognized credentials that will count toward the *Blueprint for Maryland's Future* 45% goal.

ACTION: Applicable staff at the above named agencies will ensure all relevant employees, service providers, and vendors are aware of this updated policy and will issue compliant implementation or procedural guidance, if and as needed.

EFFECTIVE: Beginning in the 2025-2026 School Year (i.e., July 1, 2025)

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Executive Summary

The College and Career Readiness (CCR) Pillar of the *Blueprint for Maryland's Future* ("the *Blueprint*") aims to ensure that students graduate from high school with the knowledge and skills required to be successful as they enter college or begin their career, and that they be on a structured career pathway at the time of graduation.[1] [2] This requires the creation of a career and technical education (CTE) system that champions Registered Apprenticeships starting in high school, which culminates in a nationally recognized industry-recognized credential upon completion, and that also prioritizes other industry-recognized credentials that prepare and qualify high school graduates for work within in-demand fields.[3]

The following policy outlines a new statewide definition for industry-recognized credentials, and which credentials will support the *Blueprint* goal that, by the 2030-2031 School Year and each year thereafter, 45% of public high school graduates will have completed the high school level of a Registered Apprenticeship or another industry-recognized credential by the time of graduation.

The Governor's Workforce Development Board (GWDB) CTE Committee defines an industry-recognized credential as:

> *An industry-recognized credential (IRC) is a formal validation of an individual's skills and/or competencies that align with state or regional in-demand occupations and is recognized by industry and employers. It may be a certification, license, or credential that is obtained through an assessment process, is portable, and may be stackable. The IRC leads to documented positive employment outcomes, ensures relevance in the labor market, and supports career advancement and economic development for credential holders.*

In order to be approved by the GWDB CTE Committee as an IRC within this definition, **an IRC must meet the following seven core criteria and two optional criteria**, which are further defined in the following policy guide:

1. Aligns with In-Demand Occupations
2. Provides Documented Outcomes
3. Validated by Industry
4. Assessment-Based
5. Standards-Driven
6. Attainable and Accessible
7. Portable
8. Stackable (preferred, but not required for approval)
9. Renewable (preferred, but not required for approval)

This policy guide provides more information on the updated CTE Committee and Maryland State Department of Education (MSDE) State-approved list of IRCs for application to high school programs (effective beginning in the 2025-2026 School Year), as well as the IRC application, review, and approval process.

[1] House Bill 1300. (2021). The *Blueprint for Maryland's Future*. aib.maryland.gov/Pages/blueprint-law.aspx
[2] Apprenticeship 2030 Commission. (Jan. 2024). *Interim Report*. https://bit.ly/424pf9d
[3] AIB. (2023). *Blueprint Comprehensive Implementation Plan*. https://tinyurl.com/aibbpcompplan2023

Introduction

In Maryland, as in the rest of the United States, the work to advance economic mobility and independence has evolved dramatically in the post-pandemic economy. Transformative economic shifts, driven by rapid technological innovation and the long-term impacts of the Great Recession, global pandemic, and other economic headwinds, have reshaped the landscape of education and employment. Earning an industry-recognized credential (IRC) in addition to a high school diploma is increasingly critical to success in a growing range of jobs, including entry-level opportunities. In recognition of this reality, Maryland is committed to expanding pathways to credentials and family-sustaining careers, including through Registered Apprenticeship and career and technical education (CTE) pathways.

The Governor's Workforce Development Board's (GWDB's) CTE Committee and the Maryland State Department of Education (MSDE) recognize the importance of building greater alignment between education and workforce needs - including through modernizing the State's approach to conferring high-value industry-recognized credentials that meet the demands of our state's economy and lead to pathways to work, wages, and wealth. With a myriad of these credentials offered across each CTE program of study, discerning and transparently articulating their real-world value is a complex but crucial task. Maryland is part of a national movement of 26 states incorporating industry-recognized credentials into their high school accountability measures.[4] The CTE Committee is charged with making critical decisions on how these credentials are being identified, assessed, and awarded under the *Blueprint for Maryland's Future* ("the *Blueprint*").

This policy lays out guidelines for Maryland's educational and workforce development leaders to identify high-value industry-recognized credentials with clarity and conviction. It calls for a collaborative approach to ensure transparency and clear alignment on messaging to students, caregivers, educators, and employers.

The most essential criterion for high-value industry-recognized credentials is unequivocal: they must be a conduit to employment that ensures a family-sustaining wage. Achieving this standard requires a unified effort from industry, workforce development, K-12, and postsecondary education leaders to identify and endorse the credentials that align with the needs of the labor market, particularly in high-skill, high-wage, and/or in-demand fields. Encouraging learners to attain these credentials, coupled with meticulous data collection and reporting, is imperative. Maryland's leadership must guide more students, especially those from historically marginalized and underserved communities, toward quality credentials as a stepping stone to work, wages, and wealth. The vitality of Maryland's economy and keeping the State's promise to leave no one behind hinge on our commitment to this endeavor.

[4] United States Department of Education (USDOE). (September 2019). *Bridging the Skills Gap: Career and Technical Education in High School*. https://www2.ed.gov/datastory/cte/index.html

Purpose

The *Blueprint for Maryland's Future* ("the *Blueprint*") establishes a goal that by the 2030-2031 School Year and each year thereafter, 45% of public high school graduates will have completed the high school level of a Registered Apprenticeship or another industry-recognized credential by the time of graduation. The intention of this goal is to ensure that students graduate from high school with the knowledge and skills required to be successful as they enter college or begin their career, and that the student be on a structured career pathway at the time of graduation.

The *Blueprint* goes on further to state that, to the extent practicable, the CTE Committee shall ensure that the largest number of students achieve the requirement of this subsection by completing a high school level of a Registered Apprenticeship.[5] This requires the creation of a CTE system that offers rigorous high school apprenticeships as the primary industry-recognized credential that produces graduates ready and qualified to work within in-demand fields.[6] Every graduate of a Registered Apprenticeship program receives a nationally recognized credential, referred to as a Certificate of Completion.[7] **Therefore, completers of the "high school level of a Registered Apprenticeship" will go on to earn an industry-recognized credential as they complete the Registered Apprenticeship after graduation.**

The *Blueprint* requires that the GWDB CTE Committee define the apprenticeships and industry-recognized credentials that count toward the 45% goal.[8] The CTE Committee and the Maryland State Department of Education (MSDE) recognize that it is essential to align around one policy that defines industry-recognized credentials, one process and set of criteria to evaluate credentials, and one joint list of approved industry-recognized credentials that both MSDE and the CTE Committee recognize for Perkins V funding and under the *Blueprint*'s 45% goal, respectively.[9]

[5] *Md. Code, Educ. § 21-204*. https://tinyurl.com/CTEComm21-204
[6] AIB. (2023). *Blueprint Comprehensive Implementation Plan*. https://tinyurl.com/aibbpcompplan2023
[7] This portable credential signifies that the apprentice is fully qualified to successfully perform an occupation. Many Registered Apprenticeship programs, particularly in high-growth industries such as healthcare, advanced manufacturing, and transportation, also offer interim credentials as apprentices master skills at each stage of their Registered Apprenticeship.
[8] To view a summary defining the apprenticeships and IRCs that count toward the 45% goal, see Appendix D.
[9] Perkins V is the Strengthening Career and Technical Education for the 21st Century Act, which was signed into law by President Trump on July 31, 2018. This bipartisan measure reauthorized the Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV) and continued Congress' commitment in providing nearly $1.4 billion annually for CTE programs. cte.ed.gov/legislation/perkins-v

Defining Industry-Recognized Credentials

The *Blueprint for Maryland's Future* requires that the GWDB CTE Committee define which industry-recognized credentials (IRCs) count toward the 45% goal (i.e., that 45% of public high school students complete the high school level of a Registered Apprenticeship or another industry-recognized credential before they graduate).

SCOPE

The GWDB CTE Committee and MSDE have worked together to coordinate development of one shared list of approved IRCs that both MSDE and the CTE Committee will recognize, in accordance with the CTE Committee's definition and criteria detailed below. The following definition, core criteria, application process, and list of approved IRCs will be recognized for the purposes of:

- CTE Committee's oversight of progress toward the *Blueprint*'s 45% goal; and
- MSDE's approval of post-College and Career Readiness pathways and for federal Perkins V funding of programs.[10]

In the future, there may be additional applications for a statewide definition and criteria for IRCs. However, this policy focuses solely on the application of the following definition and criteria only to the two items listed above, and therefore is not applicable to IRC-approval outside the defined scope.

DEFINITION

> **An industry-recognized credential (IRC) is a formal validation of an individual's skills and/or competencies that align with state or regional in-demand occupations and is recognized by industry and employers. It may be a certification, license, or credential that is obtained through an assessment process, is portable, and may be stackable. The IRC leads to documented positive employment outcomes, ensures relevance in the labor market, and supports career advancement and economic development for credential holders.**

[10] Note, this is for Perkins formula funding, so this policy is not applicable to grant funded Perkins programming.

CORE CRITERIA

Industry-recognized credentials must meet each of the seven core criteria listed below:

1. **Aligns with In-Demand Occupations:** The credential is associated with occupations that are in high demand or emerging within Maryland as defined by the Governor's Workforce Development Board (GWDB) using state labor market data and employer feedback, or as defined as a regional need or emerging credential by the Local Workforce Development Board.

2. **Provides Documented Outcomes:** There is evidence of positive employment and wage outcomes for individuals who have obtained the IRC, demonstrating its effectiveness in contributing to workforce readiness and economic advancement.
    a. In cases where the credential does not lead to a living wage job, or where data is not yet available, the credential should show that it can be stacked with other credentials, exhibiting progression in a career pathway with positive wage outcomes; or that it meets criteria 1 since it leads to an in-demand occupation.

3. **Validated by Industry:** The credential is recognized by multiple employers within an industry sector and is developed or endorsed by industry associations when applicable, ensuring its relevance and value in the job market.

4. **Assessment-Based:** The credential is awarded upon successful completion of an assessment process that may include written, oral, or performance evaluations, demonstrating the individual's mastery of specific knowledge, skills, and abilities required for a particular occupation or skill area.

5. **Standards-Driven:** The credential is based on industry-accepted standards for skills and competencies, ensuring that it reflects the current needs and practices of the relevant industry.

6. **Attainable and Accessible:** The credential is attainable by high school students through secondary, postsecondary, or other training programs and is accessible to a wide range of learners, including special populations, to support equity and inclusion in access to attainment of IRCs.[11]

7. **Portable:** The credential can support employment in more than one region of the state and, where applicable, outside the state.

[11] USDOE defines the term "special populations" within the Carl D. Perkins CTE Act of 2006, https://www.govinfo.gov/content/pkg/COMPS-3096/pdf/COMPS-3096.pdf

It is preferable for the IRC to also meet these additional two criteria (stackable and/or renewable), but these are not a requirement for approval as they are not universally applicable to every valuable IRC:

8. **Stackable:** The credential can:
    a. be transferred seamlessly to postsecondary work through acceptance for credit or hours in core program courses at an institution of higher education;
    b. be counted toward hours in an aligned Registered Apprenticeship program; or
    c. be part of a prescribed coherent sequence of IRC that show progressive skill development and qualify credential earners for professional advancement within their industry.[12]

9. **Renewable:** Where applicable, the credential is renewable, requiring holders to engage in continuous learning or re-assessment to maintain the credential's status and relevance.

COMPLETION

In order for a public high school student to be considered as successfully "completing" a "high school level of" an industry-recognized credential to be counted in the *Blueprint*'s 45% goal, the student must meet one of the following:

1. Credential is awarded to the student upon successful completion of an assessment process that may include written, oral, or performance evaluations before they graduate high school;[13] or
2. When the collective college credit earned in high school can be applied toward a specific postsecondary certificate or degree that is recognized by the industry for a specific occupation and meets the IRC criteria as defined in this policy;[14] [15] or
3. Completion of a pre-apprenticeship program that meets the quality standards of the IRC criteria as defined in this policy.[16] [17]

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[12] USDOE Stackable Credentials Tool Kit, developed by the Mapping Upward project, provides an overview of the stackable credentials approach and strategies for tracking success, course correcting, and measuring impact. https://cte.ed.gov/initiatives/community-college-stackable-credentials

[13] The CTE Committee recognizes that there are instances in which a high school student, because of their age, may be unable to be assessed for an IRC prior to graduation. Some IRCs have age restrictions wherein the assessment-taker must be 18 years of age. The CTE Committee will coordinate with MSDE, Maryland Higher Education Commission (MHEC) and other relevant agencies to develop guidance in consideration of these instances.

[14] See the section titled "Recommended Next Steps" under #1 for further information on defining this term.

[15] This entails meeting the preferred criteria of Stackable (a. *The credential can be transferred seamlessly to postsecondary work through acceptance for credit or hours in core program courses at an institution of higher education*.)

[16] See the section titled "Recommended Next Steps" under #2 for further information on defining this term.

[17] The U.S. Department of Labor (USDOL) defines pre-apprenticeship as "a training model designed to assist individuals who do not currently possess the minimum [academic or skills] requirements for selection into an apprenticeship program to meet the minimum selection criteria established in a program sponsor's apprenticeship standards required under part 29 of this chapter (29 CFR part 29) and which maintains at least one documented partnership with a Registered Apprenticeship program. It involves a form of structured workplace education and training in which an employer, employer group, industry association, labor union, community-based organization, or educational institution collaborate to provide formal instruction that will introduce participants to the competencies, skills, and materials used in one or more apprenticeable occupations." USDOL. (March 5, 2024). *Training and Employment Notice No. 23-23*. www.dol.gov/agencies/eta/advisories/ten-23-23.

IRC completion as defined above may be completed in conjunction with programs including CTE programs of study (POS) and/or youth apprenticeship programs. It must also be recognized that not all CTE POS will necessarily lead to an industry-recognized credential on the State-approved list.[18] Here are a few considerations when there is no credential directly tied to the POS:

- Lean into opportunities to expand the high school level of Registered Apprenticeships into new occupations and POS.
- Understand that not *every* student is going to engage in programming that counts toward the 45% goal - it is okay for a student to be in the other 55% of high school students.
- Remember that the 45% goal is for *all* high school students, not just CTE students. Take special consideration of dual enrollment students as an opportunity to earn approved IRCs and participate in Registered Apprenticeships.

[18] Throughout this publication, the "State-approved" list is recognized as a function of both MSDE (for Perkins) and the CTE Committee (for the *Blueprint*'s 45% goal).

Application Process For New Industry-Recognized Credentials

Local Education Agencies (LEAs), Community Colleges, Local Workforce Development Boards (LWDBs), and other organizations in Maryland must submit an application for industry-recognized credentials (IRC) that are not on the approved list to be considered.[19] This section details the requirements for requesting an IRC be assessed for approval, timelines for the application process, and alternative routes to approval for credentials unique to local and regional labor markets.

The electronic application for a new IRCs may be accessed by clicking here. The application window to consider new IRCs not on the approved list will be open annually from August 1-October 31.

CREDENTIALS UNIQUE TO LOCAL WORKFORCE NEEDS

There may be instances in which IRCs emerge that bring great value to local or regional employers but do not meet the full criteria for inclusion on the CTE Committee-MSDE listing of qualified statewide credentials. Local applications for credentials unique to local workforce needs must be verified by the LWDB in partnership with the LEA; submissions made by LEAs, Community Colleges, or other organizations without the support of the LWDB will not be considered. The expectation is that the application and supporting documentation will be submitted as a collaborative effort between the LWDB, LEA, and/or Community College.

As a part of the submission, requesting organizations must provide supporting documentation to ensure MSDE and the CTE Committee can assess whether the credential satisfies the criteria for local demand. Supporting documentation includes, at a minimum:

- Documented support from the LWDB and the LEA, such as a letter from the associated CTE Local Advisory Council (LAC). The documented support must make a compelling argument that the credential is necessary for an entry-level position and is valued and supported by local employers.

TIMELINE

The timeline for making requests for credentials to be reviewed for the CTE Committee and MSDE approved list, and for moving through the approval process, is detailed in the table below.

[19] See Appendix A for the approved list of IRCs, as of October 2024.

Date	Description
August 1 [20]	Online application for new industry-recognized credentials to be assessed **opens**.
October 31	Online application for new industry-recognized credentials to be assessed **closes**.
November	MSDE reviews each submission for completeness and follows up with requesting entities to gather any additional information needed to make a recommendation to approve or not approve.
December	MSDE prepares submission packages for each industry-recognized credential application meeting foundational application requirements, including a recommendation to **approve** or **not approve** the IRC. All packets and recommendations will be sent to CTE Committee staff by December 31st for review by the full CTE Committee.
January	The CTE Committee will formally vote to **approve** or **not approve** each IRC package provided to them by MSDE. Once a formal determination is made, MSDE will notify the requesting entity of the status via email. Each approved IRC will be added to the state-approved list for use in the upcoming school year.
February	MSDE and the CTE Committee will publish the annual State-Approved Industry-Recognized Credential list for use in the upcoming school year.
July 1	The State-Approved Industry-Recognized Credential list goes into effect for the upcoming school year.

[20] Note that the 2024 application opened August 26, 2024; however, it is the intention of the CTE Committee and MSDE that the application will open on August 1 every year thereafter.

Review Process For Existing Industry-Recognized Credentials

To ensure the relevance and quality of industry-recognized credentials (IRCs) within CTE programs, the Maryland State Department of Education (MSDE) collaborates closely with the Governor's Workforce Development Board (GWDB) CTE Committee to conduct a comprehensive review of existing approved IRCs every two years. This biennial review process is a cornerstone of Maryland's commitment to aligning CTE programs with the evolving needs of the industry and the labor market. The following narrative outlines this collaborative review process.

Each August through November on even-numbered years, with 2024 marked as the inaugural year, MSDE and the CTE Committee embark on a strategic review of the IRCs currently included in the state's CTE programs. This systematic and collaborative process ensures that each credential remains relevant, meets the high-quality standards expected by the industry, and aligns with the state's workforce development goals.

Step 1: Data Collection and Analysis

The review process begins with MSDE collecting data and feedback on the utilization, outcomes, and perceived value of each IRC from a variety of stakeholders, including educators, students, industry partners, and workforce development professionals. This step may involve analyzing employment trends, wage data, and job placement rates for credential holders, as well as soliciting feedback through surveys and focus groups.

Step 2: Labor Market Information (LMI) Review

Simultaneously, the GWDB in collaboration with MSDE conducts an in-depth analysis of current LMI to identify emerging trends, skills demand, and potential gaps in the state's workforce. This analysis helps in assessing whether the existing IRCs continue to align with economic development strategies and labor market needs.

Step 3: Review

With this foundational data in hand, MSDE and the CTE Committee review each IRC against the established statewide CTE Framework.[21] This collaborative effort ensures a comprehensive evaluation from multiple perspectives, emphasizing the credential's relevance, quality, and contribution to student success.

[21] Pursuant to Md. Code, Education, § 21-209 (https://tinyurl.com/mdcode21209), the CTE Committee is charged with developing a statewide framework for CTE that prepares students for employment in a diverse, modern economy. This CTE Framework is still forthcoming as of the date of issuance of this policy.

Step 4: Stakeholder Engagement

MSDE and the GWDB CTE Committee engage with stakeholders to discuss the findings of their review and gather additional insights. This engagement may take the form of public forums, workshops, or targeted meetings with industry advisory boards, ensuring that the review process benefits from a wide range of expertise and viewpoints.

Step 5: Decision Making and Implementation

Based on the analysis, stakeholder feedback, and collaboration between MSDE and the CTE Committee, decisions are made regarding the continuation, modification, or removal of IRCs from the state-approved list. This step ensures that the credential offerings remain dynamic and responsive to the needs of both students and employers.

Step 6: Communication and Support

Following the review, MSDE communicates the outcomes to all stakeholders, providing clear rationales for decisions made. Additionally, MSDE offers guidance and support to CTE programs affected by any changes, ensuring a smooth transition and maintaining the integrity of the CTE offerings.

Recommended Next Steps

In consideration of the valuable stakeholder input received during two rounds of public feedback, the Governor's Workforce Development Board (GWDB) CTE Committee recommends that the following steps be taken to support implementation of this updated policy.[22]

1. The CTE Committee recognizes that there are multiple pathways for students to enter a career prepared for the rigor required of the occupation, which are inclusive of Registered Apprenticeships, industry-recognized credentials, and college credit that is well-aligned to their chosen career field. The CTE Committee recommends that the Maryland State Department of Education (MSDE) and the Maryland Higher Education Commission (MHEC) develop appropriate guidance to define "completion" when the collective college credit earned in high school can be applied toward a specific postsecondary certificate or degree that is recognized by the industry for a specific occupation (such as an engineering or teaching degree). There are valuable instances where courses lead to advanced standing at the postsecondary level within the student's identified career and the degree itself meets the standard of an industry-recognized occupational credential established within this policy.

2. There are instances in which a quality pre-apprenticeship could meet the industry-recognized credential criteria established within this policy.[23] Therefore, the CTE Committee and the Maryland Department of Labor's Division of Workforce Development and Adult Learning, MSDE, and if applicable, the Maryland Apprenticeship and Training Council (MATC), will explore whether there is a need or desire to develop separate guidance or processes around reviewing and approving pre-apprenticeship program completions as an IRC.[24]

3. MSDE, in coordination with the CTE Committee, shall develop guidance and marketing materials to assist Local Education Agencies (LEAs) and other relevant partners in implementation and communication of this updated policy. As part of this work, MSDE already intends to develop the following companion materials, in coordination with the CTE Committee:
    - **Guidance**: instructions on operationalizing a new list of State-approved IRCs, updated data reporting practices, the process for having new IRCs considered for approval, and recommended guidance on braiding funding to support the expansion of IRC attainment.
    - **Credential Assessment | Business Rules for Assessing Quality Criteria:** detailed step-by-step instructions for how each criteria is assessed.
    - **Program of Study Crosswalk**: to map out which IRCs are aligned with State-approved CTE programs.

[22] For more information on the IRC stakeholder engagement conducted, see Appendix C.
[23] See USDOL Training and Employment Notice No. 23-23 (March 5, 2024) for more information on quality pre-apprenticeships. www.dol.gov/agencies/eta/advisories/ten-23-23
[24] As this process is still under consideration, pre-apprenticeship sponsors are encouraged to apply through the online IRC application in 2024 for consideration in the 2025-2026 SY. marylandpublicschools.org/about/Pages/DCCR/industry-credentials.aspx

- **One-pagers for in-demand IRCs**: to provide LEAs, career coaches, students, caregivers, and others with information on what careers specific IRCs lead to, what the earning potential is, testing requirements, and other pertinent information for making informed decisions.

4. MSDE, in coordination with the CTE Committee, shall review the following concerns regarding equity and access in order to determine the most appropriate next steps for addressing these challenges:
   - Geographical limitations in credential testing sites and frequency of credential assessments being provided to all Maryland students;
   - Resources for testing accommodations for students with disabilities.

5. The GWDB CTE Committee will work with relevant agencies to explore and refine the application of the IRC definition and criteria in other settings in addition to/outside of high school programs.

6. The GWDB CTE Committee will work with MSDE, MHEC, and in consultation with the Maryland Longitudinal Data System Center (MLDSC), to develop guidance around IRCs earned shortly after high school graduation, specifically for those that have an age requirement of 18 years old.

For more information on recommended actions to support growth in Registered Apprenticeships for high school students that support the *Blueprint*'s 45% goal, please see the CTE Committee's Apprenticeship Policy.[25]

APPENDIX GUIDE

A. List of Approved IRCs for the 2025-2026 School Year, as of October 2024
B. IRC National Landscape Analysis
C. Information on the Development of the IRC Definition, Criteria, and Stakeholder Engagement
D. Summary of Definitions for Programs to Count Toward the *Blueprint*'s 45% Goal

[25] To view the GWDB CTE Committee's Apprenticeship Policy Issuance 2024-02, visit www.gwdb.maryland.gov/policy.

Appendix A | State-Approved Industry-Recognized Credentials, as of October 2024

Beginning July 1, 2025, the State-approved industry-recognized credentials (IRCs) meeting all required core criteria are listed in the table below.[26] Once approved by the GWDB CTE Committee, MSDE will publish the annual State-approved IRC list on a publicly available website in a format that can be downloaded. Please reference the application process section for new IRCs not in the list below to be considered.

Career Cluster	IRC Code	Credential Name	Issuing Entity
Arts, Media, and Communication	11017	Adobe Certified Professional After Effects	Adobe (Certiport)
Arts, Media, and Communication	11018	Adobe Certified Professional Animate	Adobe (Certiport)
Arts, Media, and Communication	11005	Adobe Certified Professional Dreamweaver	Adobe (Certiport)
Arts, Media, and Communication	11006	Adobe Certified Professional Illustrator	Adobe (Certiport)
Arts, Media, and Communication	11007	Adobe Certified Professional InDesign	Adobe (Certiport)
Arts, Media, and Communication	11008	Adobe Certified Professional Photoshop	Adobe (Certiport)
Arts, Media, and Communication	11009	Adobe Certified Professional Premiere Pro	Adobe (Certiport)
Arts, Media, and Communication	11013	Certified Associate Webmaster (CAW)	WOW
Arts, Media, and Communication	11016	Certified Web and Mobile App Developer Associate	WOW
Arts, Media, and Communication	11015	Certified Web Animator Associate	WOW
Arts, Media, and Communication	11012	Certified Web Designer Associate (CWDSA)	WOW
Arts, Media, and Communication	11014	Certified Web Developer Associate (CWDVA)	WOW
Arts, Media, and Communication		Unity Certified User Certification - Artist	Unity (Certiport)

[26] This list of approved IRCs is accurate as of October 2024. A complete list of approved IRCs for the 2025-2026 SY will be posted publicly in February 2025.

Career Cluster	IRC Code	Credential Name	Issuing Entity
Arts, Media, and Communication		Unity Certified User Certification - Programmer	Unity (Certiport)
Arts, Media, and Communication		Unity Certified User Certification - VR Developer	Unity (Certiport)
Business Management and Finance		Microsoft Office Associate	Microsoft
Business Management and Finance	21013	Quickbooks Certified User Desktop Certification	Intuit
Business Management and Finance	21014	Quickbooks Certified User Online Certification	Intuit
Construction and Development	31001	Autodesk AutoCAD Certified User	Autodesk
Construction and Development	31002	Autodesk Revit Certified User	Autodesk
Construction and Development	31017	AWS Certified Welding - BZ	American Welding Society (AWS)
Construction and Development	31014	AWS Certified Welding - FCAW	American Welding Society (AWS)
Construction and Development	31012	AWS Certified Welding - GMAW	American Welding Society (AWS)
Construction and Development	31013	AWS Certified Welding - GMAW-S	American Welding Society (AWS)
Construction and Development	31015	AWS Certified Welding - GTAW	American Welding Society (AWS)
Construction and Development	31016	AWS Certified Welding - SAW	American Welding Society (AWS)
Construction and Development	31011	AWS Certified Welding - SMAW	American Welding Society (AWS)
Construction and Development	31021	EPA Section 608 Core plus Type I	ESCO Group
Construction and Development	31022	EPA Section 608 Core plus Type II	ESCO Group
Construction and Development	31023	EPA Section 608 Core plus Type III	ESCO Group
Construction and Development	31026	EPA Section 608 Technician	ESCO Group

Career Cluster	IRC Code	Credential Name	Issuing Entity
Construction and Development	31024	Leadership in Energy and Environmental Design (LEED) Green Associate Credential	U.S. Green Building Council (USGBC)
Construction and Development	31005	NCCER Core plus Level 1 Carpentry	National Center for Construction Education & Research (NCCER)
Construction and Development	31006	NCCER Core plus Level 1 Electrical	National Center for Construction Education & Research (NCCER)
Construction and Development	31009	NCCER Core plus Level 1 HVAC	National Center for Construction Education & Research (NCCER)
Construction and Development	31008	NCCER Core plus Level 1 Industrial Maintenance	National Center for Construction Education & Research (NCCER)
Construction and Development	31004	NCCER Core plus Level 1 Masonry	National Center for Construction Education & Research (NCCER)
Construction and Development	31007	NCCER Core plus Level 1 Plumbing	National Center for Construction Education & Research (NCCER)
Construction and Development	31010	NCCER Core plus Level 1 Welding	National Center for Construction Education & Research (NCCER)
Construction and Development		Occupational Safety and Health Administration (OSHA) 30 Certification	Occupational Safety and Health Administration
Consumer Services, Hospitality and Tourism	41002	Barber License	Maryland Department of Labor
Consumer Services, Hospitality and Tourism	41010	Barber Stylist License	Maryland Department of Labor
Consumer Services, Hospitality and Tourism	41004	Certified Fundamentals Cook (CFC)	American Culinary Federation (ACF)
Consumer Services, Hospitality and Tourism	41005	Certified Fundamentals Pastry Cook (CFPC)	American Culinary Federation (ACF)

Career Cluster	IRC Code	Credential Name	Issuing Entity
Consumer Services, Hospitality and Tourism	41007	Hospitality & Tourism Specialist Exam	American Hotel & Lodging Educational Institute
Consumer Services, Hospitality and Tourism	41001	Cosmetology License	Maryland Department of Labor
Consumer Services, Hospitality and Tourism	41009	Hairstylist License	Maryland Department of Labor
Consumer Services, Hospitality and Tourism	41003	Nail Technician	Maryland Department of Labor
Consumer Services, Hospitality and Tourism	41006	National ProStart Certificate of Achievement	National Restaurant Association
Consumer Services, Hospitality and Tourism	41008	ServSafe Manager	ServSafe
Environmental, Agricultural and Natural Resources	51005	Animal Science Specialist certification (AEST)	Agriculture Education Services & Technology Inc. (AEST)
Environmental, Agricultural and Natural Resources	51004	Certified Floral Designer	American Institute of Floral Designers (AIFD)
Environmental, Agricultural and Natural Resources	51001	Certified Professional Horticulturist (CPH)	Maryland Nursery, Landscape and Greenhouse Association, Inc.
Environmental, Agricultural and Natural Resources	51007	EETC Principles of Small Engine Technology	Engine & Equipment Training Council (EETC) through iCEV
Environmental, Agricultural and Natural Resources	51006	Erosion and Sediment Control	Maryland Department of the Environment (MDE)
Environmental, Agricultural and Natural Resources	71012	ESRI ArcGIS Desktop certification	ESRI Academy
Environmental, Agricultural and Natural Resources	71011	Geographic Information System (GIS) certification	Digital Quest

Career Cluster	IRC Code	Credential Name	Issuing Entity
Environmental, Agricultural and Natural Resources	51002	Maryland Registered Veterinary Technician (RVT) License	Maryland Department of Agriculture
Health and Biosciences	61010	Biotechnician Assistant Credentialing Exam (BACE)	Biotility
Health and Biosciences	61032	CAHIMA Certified Coding Associate (CCA)	Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM)
Health and Biosciences	61031	CAHIMA Registered Health Information Technician (RHIT)	Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM)
Health and Biosciences	61006	Certified Clinical Medical Assistant (CCMA)	National Healthcareer Association
Health and Biosciences	61005	Certified Dental Assistant (DANB)	Dental Assisting National Board, Inc.
Health and Biosciences	61011	Certified Dental Assistant (MSBDE)	Maryland State Board of Dental Examiners
Health and Biosciences	61059	Certified Medical Administrative Assistant (CMAA)	National Trade Institute
Health and Biosciences	61057	Certified Medical Assistant (CMA)	American Association of Medical Assistants (AAMA)
Health and Biosciences	61038	Certified Medical Laboratory Assistant (CMLA)	American Medical Technologists (AMT)
Health and Biosciences	61001	Certified Nursing Assistant (CNA)	Maryland Board of Nursing
Health and Biosciences	61009	Certified Orthodontic Assistant (DANB)	Dental Assisting National Board, Inc.
Health and Biosciences	61013	Certified Orthodontic Assistant (MSBDE)	Maryland State Board of Dental Examiners
Health and Biosciences	61004	Certified Pharmacy Technician (CPhT)	Pharmacy Technician Certification Board
Health and Biosciences	61003	Certified Pharmacy Technician (ExCPT)	National Healthcareer Association

Career Cluster	IRC Code	Credential Name	Issuing Entity
Health and Biosciences	61058	Certified Professional Coder (CPC)	American Academy for Professional Coders
Health and Biosciences	61014	Certified Registered Central Service Technician (CRCST)	IHAHCSM
Health and Biosciences	61021	Certified Respiratory Therapist	National Board for Respiratory Care (NBRC)
Health and Biosciences	61020	Certified Supervised Counselor - Alcohol and Drug	Maryland Department of Health
Health and Biosciences	61029	Certified Surgical Technologist (NBSTSA)	National Board of Surgical Technology and Surgical Assisting (NBSTSA)
Health and Biosciences	61036	Computed Tomography (ARRT)	American Registry of Radiologic Technologists (ARRT)
Health and Biosciences	61041	Dental Assistant (RDA)	American Medical Technologists (AMT)
Health and Biosciences	61056	Dental Hygenist License (MSBDE)	Maryland State Board of Dental Examiners
Health and Biosciences	61012	Dental Radiation Technologist (MSBDE)	Maryland State Board of Dental Examiners
Health and Biosciences	61002	Geriatric Nursing Assistant (GNA)	Maryland Board of Nursing
Health and Biosciences	61035	Magnetic Resonance Imaging (ARRT)	American Registry of Radiologic Technologists (ARRT)
Health and Biosciences	61030	Maryland Licensed Massage Therapist (LMI) License	Board of Massage Therapy Examiners
Health and Biosciences	61027	Maryland Physical Therapy License	Maryland Board of Physical Therapy Examiners
Health and Biosciences	61040	Medical Administrative Specialist (CMAS)	American Medical Technologists (AMT)
Health and Biosciences	61037	Medical Assistant (RMA)	American Medical Technologists (AMT)
Health and Biosciences	61062	National Certified Medical Assistant (NCMA)	National Center for Competency Testing (NCCT)
Health and Biosciences	61008	National Entry Level Dental Assistant (DANB)	Dental Assisting National Board, Inc.

Career Cluster	IRC Code	Credential Name	Issuing Entity
Health and Biosciences	61015	NCLEX - Licensed Practical Nurse	Maryland Board of Nursing
Health and Biosciences	61060	Pharmacy Technician License	Maryland Board of Pharmacy
Health and Biosciences	61039	Phlebotomy Technician	American Medical Technologists (AMT)
Human Resource Services	71013	Child Development Associate	Council for Professional Recognition
Human Resource Services	71002	Emergency Medical Responder (EMR) (MIEMSS)	Maryland Institute for Emergency Medical Services Systems (MIEMSS)
Human Resource Services	71016	Emergency Medical Technician (EMT) (NREMT)	National Registry of Emergency Medical Technicians
Human Resource Services	71001	Emergency Medical Technician (EMT) (MIEMSS)	Maryland Institute for Emergency Medical Services Systems (MIEMSS)
Human Resource Services	71021	ESRI GIS Fundamentals Foundation (EGFF2201)	ESRI Academy
Human Resource Services	71003	Fire Fighter I	Maryland Fire and Rescue Institute
Human Resource Services	71004	Fire Fighter II	Maryland Fire and Rescue Institute
Human Resource Services	71008	Hazardous Material Operations	Maryland Fire and Rescue Institute
Human Resource Services	71020	Nationally Registered Paramedic	National Registry of Emergency Medical Technicians
Human Resource Services	71019	Paramedic (MIEMSS)	Maryland Institute for Emergency Medical Services (MIEMSS)
Human Resource Services	71009	ParaPro	Educational Testing Service (ETS)
Human Resource Services	71010	PraxisCORE	Educational Testing Service (ETS)
Human Resource Services	71006	Rescue Tech - Site Ops	Maryland Fire and Rescue Institute
Human Resource Services	71007	Rescue Tech - Vehicle and Machinery Extraction	Maryland Fire and Rescue Institute
Human Resource Services	71005	Truck Company Fireground Ops	Maryland Fire and Rescue Institute

Career Cluster	IRC Code	Credential Name	Issuing Entity
Information Technology	81025	98-366: Networking Fundamentals	Microsoft
Information Technology	81024	98-367: Security Fundamentals	Microsoft
Information Technology	81023	98-381: Introduction to Programming using Python	Microsoft
Information Technology	81026	98-383: introduction to Programming using HTML and CSS	Microsoft
Information Technology	81027	98-388: Introduction to Programming using Java	Microsoft
Information Technology	81022	Apple Swift Level 1	Certiport
Information Technology	81050	AWS-CP (Amazon Web Services Cloud Practitioner)	Amazon Web Services
Information Technology	81051	AWS-SA (Amazon Web Services Solutions Architect Associate)	Amazon Web Services
Information Technology		CCNA	Cisco (Certiport)
Information Technology		CCST Cybersecurity	Cisco (Certiport)
Information Technology		CCST IT Support	Cisco (Certiport)
Information Technology		CCST Networking	Cisco (Certiport)
Information Technology	81011	Cisco CCT	Cisco (Certiport)
Information Technology	81005	CompTIA A+	Computing Technology Industry Association (CompTIA)
Information Technology	81004	CompTIA ITF	Computing Technology Industry Association (CompTIA)
Information Technology	81009	CompTIA Linux+	Computing Technology Industry Association (CompTIA)
Information Technology	81006	CompTIA Network+	Computing Technology Industry Association (CompTIA)

Career Cluster	IRC Code	Credential Name	Issuing Entity
Information Technology	81008	CompTIA PenTest+	Computing Technology Industry Association (CompTIA)
Information Technology	81007	CompTIA Security+	Computing Technology Industry Association (CompTIA)
Information Technology	81030	Cyber Crime Investigator (CCI)	Department of Defense
Information Technology		Cyber Ops	Cisco (Certiport)
Information Technology	81052	CYSA+ (Cybersecurity Analyst)	CompTIA
Information Technology	81029	Digital Forensic Examiner (DFE)	Department of Defense
Information Technology	81028	Digital Media Collector (DMC)	Department of Defense
Information Technology	81042	IT Specialist: Cybersecurity	Cisco
Information Technology	81038	IT Specialist: Databases	Certiport
Information Technology	81040	IT Specialist: Java	Certiport
Information Technology	81037	IT Specialist: Network Security	Certiport
Information Technology	81036	IT Specialist: Networking	Certiport
Information Technology	81039	IT Specialist: Python	Certiport
Information Technology	81010	LPI Linux Essentials	Linux Professional Institute (LPI)
Information Technology	81041	Magnet Certified Forensics Examiner (MCFE)	Magnet Forensics
Information Technology	81035	Microsoft Certified: Azure Fundamentals	Microsoft
Information Technology	81034	Oracle Certified Associate, Database SQL	Oracle
Information Technology	81033	Oracle Certified Associate, Java SE 8 Programmer	Oracle
Information Technology	81003	Oracle Certified Foundations Associate, Database	Oracle

Career Cluster	IRC Code	Credential Name	Issuing Entity
Information Technology	81002	Oracle Certified Foundations Associate, Java	Oracle
Manufacturing, Engineering and Technology	31020	ADDA Apprentice Drafter Exam	American Design Drafting Association
Manufacturing, Engineering and Technology	31027	Autodesk 360 Fusion	Autodesk
Manufacturing, Engineering and Technology	31003	Autodesk Inventor Certified User	Autodesk
Manufacturing, Engineering and Technology		Certified Additive Manufacturing Fundamentals	Society of Manufacturing Engineers
Manufacturing, Engineering and Technology	91016	Certified Logistics Associate	Manufacturing Skill Standards Council (MSSC)
Manufacturing, Engineering and Technology	91017	Certified Logistics Technician	Manufacturing Skill Standards Council (MSSC)
Manufacturing, Engineering and Technology		Certified Manufacturing Associate	Society of Manufacturing Engineers
Manufacturing, Engineering and Technology		Certified Manufacturing Technologist	Society of Manufacturing Engineers
Manufacturing, Engineering and Technology		Certified Onshape Professional	Onshape
Manufacturing, Engineering and Technology		Certified Production Technician 4.0	Manufacturing Skill Standards Council (MSSC)
Manufacturing, Engineering and Technology		Certified Production Technician CPT+ Skill Boss	Manufacturing Skill Standards Council (MSSC)
Manufacturing, Engineering and Technology		Certified SolidWorks Associate (CSWA-Mechanical Design)	SolidWorks
Manufacturing, Engineering and Technology		Certified SolidWorks Professional (CSWP-Mechanical Design)	SolidWorks

Career Cluster	IRC Code	Credential Name	Issuing Entity
Manufacturing, Engineering and Technology		FCR-O1 (Operator 1)	FANUC America
Manufacturing, Engineering and Technology		FCR-O2 (Operator 2)	FANUC America
Manufacturing, Engineering and Technology	91011	NIMS CNC Milling: Operations with Measurement, Materials & Safety	National Institute for Metalworking Skills Inc. (NIMS)
Manufacturing, Engineering and Technology	91009	NIMS CNC Milling: PGM Setup & Operations with Measurement, Materials & Safety	National Institute for Metalworking Skills Inc. (NIMS)
Manufacturing, Engineering and Technology	91010	NIMS CNC Turning: Operations with Measurement, Materials & Safety	National Institute for Metalworking Skills Inc. (NIMS)
Manufacturing, Engineering and Technology	91008	NIMS CNC Turning: Programming Setup & Operations with Measurement, Materials & Safety	National Institute for Metalworking Skills Inc. (NIMS)
Manufacturing, Engineering and Technology	91007	NIMS Drill Press Skills I with Measurement, Materials & Safety exam	National Institute for Metalworking Skills Inc. (NIMS)
Manufacturing, Engineering and Technology	91006	NIMS Grinding Skills I with Measurement, Materials & Safety exam	National Institute for Metalworking Skills Inc. (NIMS)
Manufacturing, Engineering and Technology	91002	NIMS Job Planning, Benchwork & Layout with Measurement, Materials & Safety exam	National Institute for Metalworking Skills Inc. (NIMS)
Manufacturing, Engineering and Technology	91003	NIMS Manual Milling Skills I with Measurement, Materials & Safety exam	National Institute for Metalworking Skills Inc. (NIMS)
Manufacturing, Engineering and Technology	91004	NIMS Turning Operations: Turning Between Centers with Measurement, Materials & Safety exam	National Institute for Metalworking Skills Inc. (NIMS)

Career Cluster	IRC Code	Credential Name	Issuing Entity
Manufacturing, Engineering and Technology	91005	NIMS Turning Operations: Turning Chucking Skills with Measurement, Materials & Safety exam	National Institute for Metalworking Skills Inc. (NIMS)
Transportation Technologies	101061	Advanced Climate Control Manufacturer Specific	Ford Motor Company
Transportation Technologies	101068	Advanced Engine Performance Specialist Test L1	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101020	ASE A1: Engine Repair	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101021	ASE A2: Automatic Transmission/Transaxle	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101022	ASE A3: Manual Drive Train & Axles	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101023	ASE A4: Suspension & Steering	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101024	ASE A5: Brakes	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101025	ASE A6: Electrical/Electronic Systems	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101026	ASE A7: Heating & Air Conditioning	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101027	ASE A8: Engine Performance	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101028	ASE A9: Light Vehicle Diesel Engines	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101006	ASE Student: Automatic Transmission/Transaxle	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101059	ASE Student: Automobile Service Technology	National Institute for Automotive Service Excellence (ASE)

Career Cluster	IRC Code	Credential Name	Issuing Entity
Transportation Technologies	101002	ASE Student: Brakes	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101003	ASE Student: Electrical/ Electronic Systems	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101004	ASE Student: Engine Performance	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101005	ASE Student: Engine Repair	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101008	ASE Student: Heating and Air Conditioning	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101009	ASE Student: Maintenance and Light Repair	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101007	ASE Student: Manual Drive Train and Axles	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101010	ASE Student: Painting and Refinishing	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101001	ASE Student: Suspension and Steering	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101060	ASE: Inspection Maintenance & Minor Repair	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101064	ASE/609 Refrigerant Recovery and Recycling	ASE Refrigerant Recovery and Recycling Program
Transportation Technologies	101019	Class A Commercial Driver License (CDL)	Maryland Department of Transportation
Transportation Technologies	101052	Class B Commercial Driver License (CDL)	Maryland Department of Transportation
Transportation Technologies		Commercial Learner's Permit (CLP)	Maryland Department of Transportation
Transportation Technologies	101013	Diesel Engines student	National Institute for Automotive Service Excellence (ASE)

Career Cluster	IRC Code	Credential Name	Issuing Entity
Transportation Technologies	101062	Differential and 4WD Systems	Ford Motor Company
Transportation Technologies		FAA Part 107 Drone Pilot License	Federal Aviation Administration
Transportation Technologies		Forklift Operator Certificate	Multiple: Must be Occupational Safety and Health Administration Approved
Transportation Technologies		Hazardous Materials Handler Certification	Multiple: Must be Department of Transportation Approved
Transportation Technologies	101014	I-CAR Aluminum GMA (MIG) Welding Certificate	Inter-Industry Conference on Auto Collision Repair (I-CAR)
Transportation Technologies	101055	I-CAR Non-Structural Technician Platinum ProLevel 1 Credential	Inter-Industry Conference on AutoCollision Repair (I-CAR)
Transportation Technologies	101054	I-CAR Refinish Technician Platinum ProLevel 1 Credential	Inter-Industry Conference on Auto Collision Repair (I-CAR)
Transportation Technologies	101012	I-CAR Steel GMA Welding Certificate	Inter-Industry Conference on Auto Collision Repair (I-CAR)
Transportation Technologies	101069	Maintenance and Light Repair G1	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101063	Manual Transmission and Transaxle Repair	Ford Motor Company
Transportation Technologies	101015	Non-Structural Analysis and Damage Repair student	National Institute for Automotive Service Excellence (ASE)
Transportation Technologies	101011	Structural Analysis and Damage Repair student	National Institute for Automotive Service Excellence (ASE)

Appendix B | Industry-Recognized Credentials National Analysis

OVERVIEW

In the rapidly evolving landscape of the American workforce, the significance of industry-recognized credentials (IRCs) has become increasingly prominent. These credentials serve as a vital bridge, connecting the skills and knowledge acquired through career and technical education (CTE) programs with the specific needs and standards of various industries. As the nation strives to align educational outcomes with the demands of a competitive global economy, states across the country are implementing strategic initiatives to define, approve, and integrate IRCs into their CTE programs.

This section presents a comprehensive overview of the approaches taken by a selection of states to cultivate a skilled workforce through the endorsement of IRCs. Each state's strategy reflects a commitment to enhancing the employability of students and the robustness of the state's economy. These efforts are not only indicative of a national trend toward workforce development but also highlight the unique regional demands and educational philosophies that shape state-specific programs.

MSDE staff and the CTE Committee staff examined the varied methodologies and criteria employed by states including Alabama, Colorado, Delaware, Florida, Kansas, Louisiana, North Carolina, Ohio, Pennsylvania, Tennessee, and Texas. Through this process, it becomes clear that while the objectives may be similar, the pathways to achieving them are as diverse as the states themselves. This national landscape review offers insights into the collaborative efforts between educational institutions, industry leaders, and governmental agencies to ensure that the credentials provided are not only recognized and valued by employers but also tailored to the economic and labor market trends of each state.

The following summarizes a deep dive into the state models of Delaware, Florida, and Texas, which aligned most closely with the intent and purpose of the *Blueprint for Maryland's Future* and the CTE Committee and MSDE's collaboration, respectively. The following three states were extensively consulted as a proposed definition, characteristics, and process for IRCs were being considered.

STATE-MODEL DEEP DIVE

Delaware

In Delaware, an IRC is a mark of professional and technical competence that is highly regarded in various industries. These credentials are conferred by certification bodies that are acknowledged by industry sectors as benchmarks of proficiency in specific occupational roles or skill areas. To earn such a credential, individuals must undergo a rigorous assessment process that may involve written, oral, or practical examinations, demonstrating their knowledge, skills, and abilities pertinent to a particular job. These certifications are often

time-bound, requiring holders to periodically renew their credentials through a recertification process to maintain their status.

Local Education Agencies (LEAs) are encouraged to submit applications for new IRCs to the Delaware Department of Education (DDOE). The DDOE has established an internal program review committee that opens the application process each fall or when it is time to revise the credentials associated with current CTE programs of study. LEAs interested in applying must furnish the DDOE with data that supports the quality of the IRC they propose. This data is scrutinized by the review committee, which then makes a recommendation regarding the classification of the credential into one of three categories: foundational, essential, or preferred. These categories are determined based on how well the credential meets established quality criteria.

The DDOE reviews the committee's recommendation and the supporting data to make a final decision. They also document their rationale, providing transparency and setting a precedent for future evaluations. The Delaware review committee employs a specific rubric to assess the quality of an IRC. This rubric includes criteria such as alignment with DDOE career and technical education programs of study, relevance to in-demand occupations within the state or region, value to employers, and the credential's ability to lead to employment, higher wages, career advancement, and job security. Additionally, the rubric considers whether the credential is portable across industries, stackable toward further training, validated by a third party, and requires a minimum number of instructional hours for attainment. Finally, it assesses whether the credential is sufficient for employment and career progression.

Florida

In Florida, non-degree credentials are subject to rigorous standards to ensure they serve the economic interests of both individuals and the broader labor market. Florida's Reimagining Education and Career Help (REACH) Act requires that credentials must first and foremost demonstrate their relevance to labor market needs.[27] This is determined either by the Labor Market Estimating Conference for statewide demand or by local demand as identified by the Credentials Review Committee. The credentials must also prove that the competencies they impart are in sync with what the market requires, ensuring that individuals are equipped with skills that are currently in demand by employers. Furthermore, there must be evidence that individuals who have earned these credentials find employment and earn wages that are at least at the middle- to high-level, with a preference for those credentials that lead to high-level wages.

An industry certification, which is a voluntary credential assessed by a third-party entity, falls under this statute if it does not have a statewide articulation agreement for college credit or if it has such an agreement for no more than 14 college credits in a related associate degree program. Entities such as the Florida College System, Local Workforce Development Boards, and Florida school districts can submit credentials for consideration. They must provide detailed information through an online application, including the type of credential, relevant codes, direct links to information about the credential, contact details for the certifying agency, program titles and numbers, industry sector focus, proof of demand, and more. A

[27] Florida Statute. (2021). *Chapter 14.36(2)(a).* https://flsenate.gov/Laws/Statutes/2021/14.36

joint review team, established by the Credentials Review Committee and comprising representatives from the Florida Department of Education, the Florida Department of Economic Opportunity, and CareerSource Florida (the statewide workforce policy and investment board), conducts quarterly evaluations of submitted credentials. They assess these against the Framework of Quality, and those meeting the criteria are recommended for inclusion on the Master Credentials List. The Credentials Review Committee votes on these recommendations, and the approved list is then presented to the CareerSource Florida Board of Directors and subsequently to the State Board of Education. Once approved, the Master Credentials List is updated on the CareerSource Florida website.

Annually, the credentials on the Master Credentials List are reviewed against new labor market data, and those that no longer meet the Framework of Quality are phased out, following the same review steps as the quarterly updates. The Framework of Quality, which guides the evaluation of credentials, places a strong emphasis on demand and wage levels. By linking a credential to a Standard Occupational Classification (SOC) code, it can be associated with an occupation, its demand indicators can be assessed, and evidence of associated wage levels can be provided. This structured approach ensures that the credentials recognized in Florida are not only of high quality but also of high value to both the workforce and the economy.

Texas

In Texas, the passage of House Bill 22 in 2017 marked a significant shift in how high school student achievements are measured.[28] The Texas Education Agency (TEA) was tasked with incorporating the attainment of industry-based certifications (IBCs) into the Student Achievement domain of the state's public-school accountability system. This move underscores the state's commitment to preparing students for in-demand careers, recognizing that success in the workforce or in postsecondary education is a key indicator of a school's effectiveness.

IBCs are not merely accolades; they signify that a student has acquired skills valued by industry, skills that not only enhance employability immediately after high school but also serve as a foundation for further achievement and independence in life. These certifications are tied to specific career clusters or occupations and are measured against recognized standards. An individual earns a certification by passing an assessment that validates their industry-specific skills. These certifications are granted by certifying entities such as trade associations or industry-approved testing organizations, rather than by secondary schools or institutions of higher education. They are typically time-limited, requiring ongoing professional development or retesting to maintain the certification.

LEAs in Texas must navigate a thorough application process to have an IBC approved for each CTE program of study. The TEA, which reviews these applications, looks for certifications that are aligned with industry standards, portable across different job contexts, affordable, and accessible to all students. Once an application is submitted, TEA has a 30-day window to review it, with approved certifications remaining valid for three years. The TEA's review process for IBCs is multi-faceted:

[28] 85th Texas Legislature. (2017). *House Bill 22*. https://legiscan.com/TX/text/HB22/id/1625647

1. The TEA solicits nominations for IBCs.
2. The Ray Marshall Center at the University of Texas at Austin evaluates whether the certifications are recognized and valued by the industry.
3. Tri-agency staff, including the TEA, review whether the certifications meet the definition of a true certification.[29]
4. Tri-agency partners recruit panels for further evaluation.
5. The TEA develops a rubric and conducts reviewer training.
6. Panels, typically comprising two members (with a third if necessary), review the certifications for portability, the presence of a certifying entity, and coverage of the Texas Essential Knowledge and Skills (TEKS) content.
7. Tri-agency partners complete a quality assurance process.
8. The approved list of IBCs is then released.

The rubric used by the TEA to validate and approve IBCs includes several criteria:

1. The certification must be a true reflection of skill attainment and valid for a specific period.
2. It must be recognized and valued by the industry, as evidenced by employer surveys that show the certification influences hiring and wage decisions.
3. The certification should be attainable by high school students, meaning a typical 17 or 18-year-old should be able to earn it by graduation.
4. It must be portable, meaning it is recognized regionally, by multiple employers, or as a stepping stone to more advanced postsecondary or apprenticeship opportunities.
5. The certifying entity must be independent of the educational program to ensure the skills are validated outside of course completion.
6. The certification should serve as a capstone or end-of-program achievement, taken after the completion of TEKS-based coursework within a program of study.

This structured approach ensures that the certifications deemed valuable by the TEA are not only indicative of a student's readiness for college and career but also reflective of the skills that are in demand within the Texas labor market.

STATE-MODEL SUMMARY

Across the United States, a mosaic of credentialing initiatives reflects a concerted effort to bridge education with the evolving demands of the workforce. These initiatives, while varied in their approach, collectively underscore a commitment to equipping students with IRCs that signal competence and readiness for in-demand careers.

The strategic efforts range from Alabama's Success Plus initiative, which systematically aligns credentials with labor market needs and mandates annual reassessments, to Kansas' Excel in CTE legislation that incentivizes students' attainment of IRCs in high-demand sectors. Louisiana's Jump Start CTE program and North Carolina's Essential & Career Credentials list further exemplify the drive to connect educational pathways directly to employment opportunities, ensuring that credentials are not only recognized by employers but also lead to

[29] In March 2016, Texas Governor Greg Abbott created the Tri-Agency Workforce Initiative. The Governor tasked the Commissioners of the Texas Education Agency (TEA), the Texas Higher Education Coordinating Board (THECB) and the Texas Workforce Commission (TWC) to work together on developing strong links between education and industry, with the goal of helping Texas grow in economic prosperity.

sustainable wage premiums. Ohio and Tennessee have developed robust systems to validate credentials against industry needs, with Ohio integrating labor market data and industry feedback into its review process, and Tennessee ensuring credentials align with secondary and postsecondary education programs. Pennsylvania's forthcoming credential registry, funded by the American Rescue Plan, promises a user-friendly platform to guide individuals toward valuable, stackable credentials. Delaware's approach involves a detailed rubric to categorize credentials into foundational, essential, or preferred, based on their alignment with CTE programs and market demands. Florida's rigorous standards for non-degree credentials emphasize labor market relevance and positive employment outcomes, with a quarterly review process to maintain a current and responsive Master Credentials List. Texas has taken legislative action to integrate the attainment of IBCs into the public-school accountability system, recognizing the importance of industry-valued skills for student success beyond high school. This integration is a testament to the state's forward-thinking approach to education and workforce development.

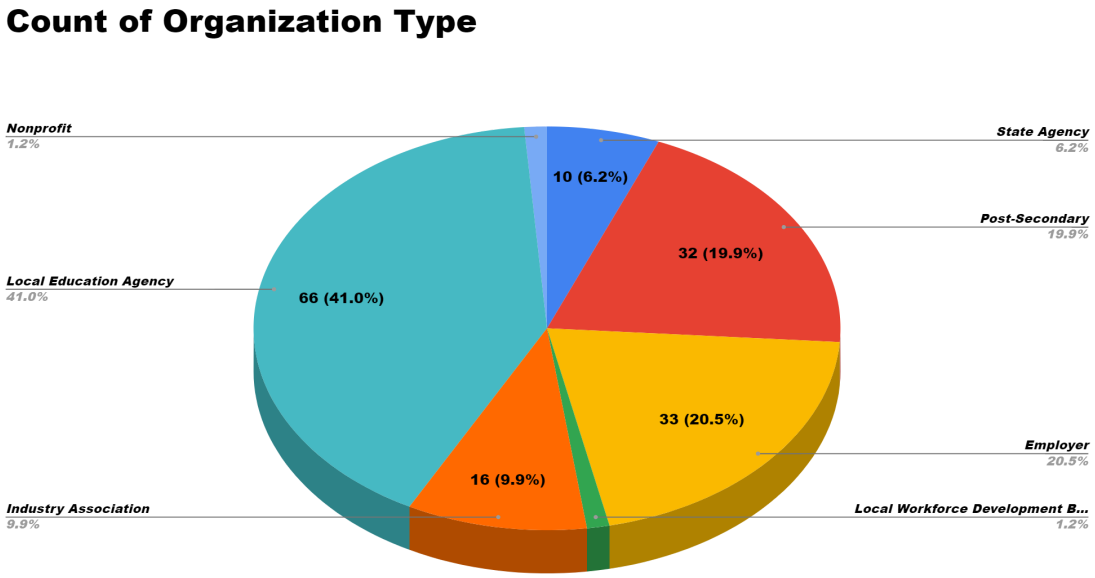
Despite the diversity of these programs, they share a common set of strengths, including a clear focus on aligning credentials with in-demand jobs and involving state workforce boards and employers in the credential review process. However, they also face similar challenges, such as the need for agility in adapting to rapidly changing industry landscapes and the complexity of the credentialing processes, which can be resource-intensive for both educational institutions and students. The future of these initiatives lies in their ability to remain dynamic and responsive. Streamlining application and review processes, ensuring regular updates to reflect the latest industry trends, and balancing the focus on wage outcomes with other employment benefits are all critical steps toward strengthening these credentialing systems. By doing so, they can better serve not only the students and workers who earn these credentials but also the broader economic interests of the states in which they operate.

Appendix C | Industry-Recognized Credential Development and Stakeholder Engagement

The Governor's Workforce Development Board (GWDB) CTE Committee collaborated with the Maryland State Department of Education (MSDE) to examine national best practices, and gathered input from a range of stakeholders to inform the development of an aligned industry-recognized credential (IRC) definition, set of criteria, and approval process.[30]

The CTE Committee and MSDE issued the initial proposed draft IRC definition and criteria as a joint product for public comment in mid-December 2023. This feedback was reviewed, thematically coded to uplift recurring themes, and the framework updated as a result of feedback. The updated draft IRC policy was then released for a second public comment period in mid-March 2024. Throughout this process, the CTE Committee and MSDE have presented and met with multiple stakeholder groups to solicit additional feedback. The CTE Committee received over 160 responses to the public feedback form. Feedback was representative of a wide variety of stakeholders, including Local Education Agencies (LEAs), Local Workforce Development Boards, employers and industry associations, and postsecondary educators (see Figure 1 below). This feedback informed a thoughtful analysis and revision of the final definition and required criteria as presented in this policy.

Figure 1: Respondents to the public feedback forms represented the following organization types



[30] For more information on the national landscape review of other state IRC models, see Appendix B.

As a result of the feedback, and specifically respondents indicating which of the original 10 proposed criteria were the most valuable, the CTE Committee refined the approval of IRCs to include seven core criteria and two preferred, but not required, criteria.

MSDE then assessed the current list of state-approved credentials that had previously been approved for Perkins V within Maryland. The GWDB CTE Committee and MSDE assessed this list against the updated criteria because this ensured that these credentials were already available within CTE programs of study and therefore in operation to ensure acceleration of implementation for in-demand credentials. This review resulted in an initial list of a little over 200 approved IRCs. This initial approved list was shared publicly and made available for comment beginning February 28, 2024; however, it was noted that as of the release of that draft publication, there were several credentials that were still being evaluated due to requiring additional information for consideration. MSDE reviewed these remaining credentials in spring 2024 and the accompanying list in this publication under Appendix A is current as of October 2024.

The updated IRC Policy was approved by the CTE Committee on May 22, 2024, and submitted to the Accountability and Implementation Board (AIB) for consideration. The AIB approved the IRC Policy on August 1, 2024. The policy within this publication is the final approved policy 2024-01.

Apprenticeships and Industry-Recognized Credentials for High School Students Under the *Blueprint for Maryland's Future*

Summary of Policy Issuances 2024-01 and 2024-02

The *Blueprint for Maryland's Future* ("the *Blueprint*") established a goal that, by the 2030-31 school year, 45% of public high school graduates will have completed the high school level of a Registered Apprenticeship or another industry-recognized credential, as defined by the CTE Committee of the Governor's Workforce Development Board ("45% goal"). The CTE Committee has issued two policies to define minimum standards and quality criteria for both the "high school level of a Registered Apprenticeship" and other "industry-recognized credentials" (IRCs) that will be counted toward the *Blueprint*'s 45% goal.

Defining the *Blueprint*'s 45% Goal

High school students must complete one of the following by graduation to be counted

Options	Details	In 45% Goal
Registered Apprenticeship (RA)	- Gold standard for fulfilling the *Blueprint*'s 45% goal - Requires 144+ hours of related instruction (RI) and 250+ hours of on-the-job training (OJT) before graduation[1] - Does not require completion of entire RA during high school	✓
Industry-Recognized Credential (IRC)	- IRC that validates skills for in-demand occupations and is recognized by employers, as approved by the GWDB CTE Committee[1] - Student must earn an IRC on the approved list - Student can also complete as part of a YA (see below) - Should be pursued when a RA is not available	✓
↳ Youth Apprenticeship (YA) + IRC	- Student must have completed an IRC, per above, as part of their YA	✓
YA Only	- Completion of YA without an IRC may still be a valuable experience for some students and employers, but cannot count toward the *Blueprint*'s 45% goal[2]	✗

High School Level of a Registered Apprenticeship

Registered Apprenticeship (RA) provides a structured career pathway and is an earn-and-learn training model proven to have a strong return-on-investment for both apprentices and employers. In Maryland, RAs must be approved by the Maryland Apprenticeship and Training Council (MATC).

A "high school level of a Registered Apprenticeship" is defined as a MATC-approved RA program that begins while an apprentice is in high school, and **requires that students complete a minimum of 144 hours of related instruction (RI) and 250 hours of paid on-the-job training (OJT) before their high school graduation**. Further RA requirements continue post-graduation, in accordance with total program standards approved by MATC.

1. To view the GWDB CTE Committee's Apprenticeship Policy and IRC Policy, visit www.gwdb.maryland.gov/policy.
2. YA only cannot be included in the 45% goal given statutory definitions and interpretation of the law from the AIB.

Industry-Recognized Credential

An industry-recognized credential (IRC) is **a formal validation of an individual's skills and/or competencies that align with state or regional in-demand occupations and is recognized by industry and employers. It may be a certification, license, or credential that is obtained through an assessment process, is portable, and may be stackable. The IRC leads to documented positive employment outcomes, ensures relevance in the labor market, and supports career advancement and economic development for credential holders.**

The CTE Committee and the Maryland State Department of Education (MSDE) have developed a coordinated IRC vetting process to ensure that State efforts through the *Blueprint* as well as through federal Perkins CTE funding are focused on quality IRCs that fit the above definition.

Specifically, each IRC on the State-approved list used by both the CTE Committee and MSDE must meet the following required quality criteria:

1. *Aligned with in-demand occupations*
2. *Provides documented outcomes*
3. *Validated by industry*
4. *Assessment-based*
5. *Standards-driven*
6. *Attainable and accessible*
7. *Portable*

It is also preferred, but not required, that IRCs also meet the following quality criteria:

1. *Stackable*
2. *Renewable*

Applications for new IRCs to be considered that are not on the approved list will be open annually August 1 through October 31. The IRCs will be reviewed by MSDE and submitted to the GWDB CTE Committee for approval to go into effect the following school year.

Additional information can be found in the GWDB CTE Committee's Apprenticeship Policy and IRC Policy, which can be viewed at www.gwdb.maryland.gov/policy.

ABOUT THE GWDB

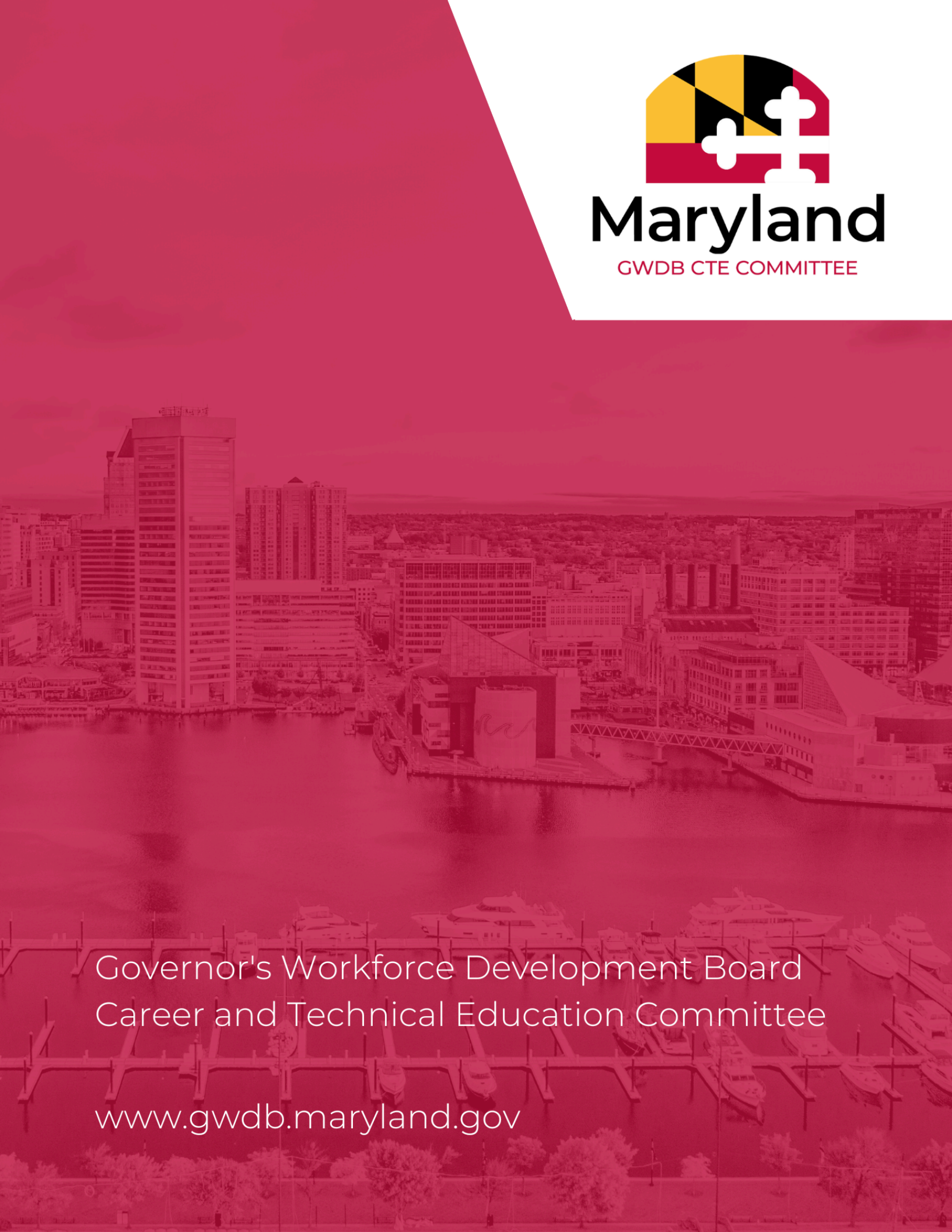
The GWDB serves as the Governor's chief strategy and policy-making body for workforce development by engaging key business, labor, education, community, and State and local government leaders to collaborate and advise the Governor on business-led workforce approaches that advance Maryland's economic competitiveness and build pathways to work, wages and wealth for all Marylanders. The GWDB is a business-led board, with a majority of members representing the business community. Other members include the governor, cabinet secretaries, college leaders, the state superintendent of schools, elected officials, and representatives of labor organizations and community-based nonprofit organizations. More information can be found at www.gwdb.maryland.gov

ABOUT THE CTE COMMITTEE

The CTE Committee was established under the *Blueprint for Maryland's Future*, Md. Code, Educ. § 21-209, as a unit within the GWDB. The CTE Committee's mission is to build an integrated, globally-leading framework for providing CTE to Maryland students in public schools, institutions of postsecondary education, and the workforce. The *Blueprint* envisions a system where academic knowledge and occupational competencies are integrated to enable students to develop the critical thinking, problem solving, employability, and technical skills required to meet the workforce and economic development needs of the 21st century. The CTE Committee is responsible for strategy and policy for core elements within Pillar 3 of the *Blueprint*, and its work falls under the oversight authority of the Accountability and Implementation Board (AIB). More information can be found at www.gwdb.maryland.gov/ctecomm

Maryland

GWDB CTE COMMITTEE



Governor's Workforce Development Board
Career and Technical Education Committee

www.gwdb.maryland.gov