(CONFIDENTIAL DRAFT - Deliberative Process Documents)

Maryland's Framework for Career and Technical Education

CTE Committee, Governor's Workforce Development Board

May 2024

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Purpose

This Career and Technical Education (CTE) Framework aims to provide an overarching strategy for CTE in the state and support the implementation of the *Blueprint for Maryland's Future* ("the *Blueprint*") - including the *Blueprint* legislation's goal that by the end of the 2030-31 school year, and each year thereafter, 45% of public high school students will graduate having completed the high school level of a Registered Apprenticeship or another industry-recognized credential. This framework will push forward innovative CTE practices within the *Blueprint* and apply strategic initiatives to support its success. The priorities within the framework create a strategic roadmap to forging a CTE system that is accessible, collaborative, and student outcome-driven. The vision for CTE in Maryland is for each Marylander to have access and opportunity to engage in career programs that align to high-skill, high-wage, and/or in-demand careers, lead to earning an industry-recognized credential and/or postsecondary credential, and provide career-based learning experiences. The overarching goal of Maryland's CTE system is to maintain a robust set of career preparation pathways, including, but not limited to, CTE programs of study. Additional guidance and measures will be released to support this framework and provide Local Education Agencies (LEAs), stakeholders, and partners with sufficient support for effective implementation.

The CTE Framework:
- Articulates the main purpose of CTE and related pathways, which are referred to as "CTE and career preparation pathways" to recognize that every post-CCR pathway prepares Maryland students for a career, and to also emphasize a vision where pathways blend and build on one another[1];
- Provides actionable and innovative strategies that advance the *Blueprint's* vision for CTE;
- Outlines how CTE connects with other key systems and programs in Maryland;
- Reflects statewide priorities for education and workforce development in Maryland; and
- Builds on promising practices and existing frameworks from leading countries and states (see Appendix 2).

Implementation of this framework will be the responsibility of multiple state and local agencies and institutions. This document outlines the overarching strategic framework for CTE in Maryland, and forthcoming guidance from the GWDB CTE Committee and partner agencies responsible for implementation will delineate specific roles, responsibilities and requirements associated with each strategy.

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[1] For a full definition of "career preparation pathways" please see Appendix 1.

Executive Summary

This CTE Framework contains six overarching strategic priorities, each with corresponding strategies and sub-strategies that outline actions to support the priority's goals. The order of priorities complements one another and may contain overlapping or linked strategies that build upon one another. **Maryland's six strategic priorities for CTE** are as follows:

1. *Maximize the percentage of students who meet the state's College and Career Readiness (CCR) Standard by 10th grade, and ensure that all students have the opportunities and support necessary to meet the CCR Standard.*
2. *All students participate in high-quality, expert career coaching starting in middle grades and continuing through high school.*
3. *All students have access to a comprehensive continuum of career-connected learning and exploration opportunities starting in middle grades or earlier.*
4. *Provide high-quality CTE and other career preparation pathways, particularly those that support Registered Apprenticeships or other industry-recognized credentials.*
5. *All students can access robust technical instruction opportunities across content areas.*
6. *CTE and career preparation pathways are aligned with industry needs.*

Following the release of this CTE Framework, the GWDB CTE Committee will develop guidance in collaboration with partner agencies to clearly define roles and responsibilities for each listed strategy to ensure effective implementation across the State.

There are three accompanying appendices to reference:
- Appendix 1: glossary of terms, phrases, and policy provisions;
- Appendix 2: national/international landscape analysis of CTE strategic frameworks; and
- Appendix 3: outlines the details of this Framework development process.

Background

The *Blueprint for Maryland's Future* ("the *Blueprint*") established the CTE Committee as a unit within the Governor's Workforce Development Board (GWDB). The Governor's Workforce Development Board (GWDB) is the Governor's chief strategy and policy-making body for workforce development.[2] The GWDB is also designated as the state's workforce development board under the federal Workforce Innovation and Opportunity Act (WIOA), with responsibilities for governing Maryland's workforce system.

Under the *Blueprint*, the CTE Committee's purpose is to build an integrated, globally-leading framework for providing Career and Technical Education (CTE) to Maryland students in public schools, institutions of postsecondary education, and the workforce. The *Blueprint* envisions a CTE system where academic knowledge and occupational competencies are integrated, enabling 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 *Blueprint* requires the CTE Committee to develop a statewide framework for CTE that prepares students for employment in a diverse, modern economy. This framework was developed in close collaboration with members of the GWDB CTE Committee, Maryland State Department of Education (MSDE) staff, and with the assistance of experts at Advance CTE, a national nonprofit membership association representing State CTE Directors and other state leaders of Career and Technical Education.

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[2]GWDB Executive Order, https://governor.maryland.gov/Lists/ExecutiveOrders/Attachments/29/EO%2001.01.2023.22%20Governor's%20Workforce%20Development%20Board_Accessible.pdf

Priority 1: Maximize the percentage of students who meet the state's College and Career Readiness (CCR) Standard by 10th grade, and ensure that all students have the opportunities and support necessary to meet the CCR Standard.

The *Blueprint* stipulates that students who meet the CCR Standard by 10th grade can access Post-CCR pathways, including CTE pathways. Critical to this priority is ensuring that all students have the opportunities and support necessary to meet the CCR Standard. One of the *Blueprint*'s strategic goals is to ensure all Maryland students, including those in special populations, can access a fully aligned instructional system that enables and supports them to achieve the CCR standard by the end of 10th grade. Bolstering existing structures and providing intentional support to eliminate potential barriers many students face in meeting the CCR Standard will allow for more equitable participation in Post-CCR pathways including CTE and Registered Apprenticeship opportunities.

Strategies:

1.1 Expand data and accountability models that value equity and innovation, including building accessible data dashboards with career-ready indicators to address potential equity gaps and enable key stakeholders to make data-driven decisions.

1.2 Focus educator recruitment and retention efforts to reflect a diverse teacher workforce that is responsive to its student demographics.

    1.2.A. Support routine diversity, equity, and inclusion training for employers to create culturally responsive workplace environments.

1.3 Provide opportunities for students who have yet to meet the CCR standard to demonstrate mastery of core academic content as part of a CTE course, which could then be incorporated into the student CCR re-assessment. After a student has been re-assessed and determined to be CCR-ready, they would have access to Registered Apprenticeship participation.

1.4 Define clear mechanisms that are culturally responsive and inclusive to evaluate students' college and career readiness within CTE and career preparation pathways.

1.5 Seek to eliminate and address potential bias and barriers in the CCR standard and assessment to ensure equitable access to CTE coursework and programs of study.

1.6 Collaborate with the Maryland State Board of Education, the Accountability and Implementation Board, and other relevant agencies and partners to analyze whether the current CCR standard is appropriate for determining "career ready."

Priority 2: All students participate in high-quality, expert career coaching starting in middle grades and continuing through high school.

The *Blueprint* prioritizes participation by every middle and high school student in high-quality career coaching and guided enrollment into at least one Post-College and Career Readiness (CCR) pathway. Further empowering learners in navigating their career journey requires comprehensive, accessible, and connected coaching systems that start by engaging young learners.

Strategies:

2.1   Develop a high-quality career coaching framework that clearly articulates a continuum of activities starting in middle grades or earlier, as well as the roles and responsibilities of each entity involved in career coaching.

2.2   Expand career exposure and exploration activities in elementary and middle grades through a comprehensive and flexible continuum of career-connected learning opportunities that are responsive to students' evolving needs and interests.

    2.2.A Include a mechanism for family outreach that prioritizes their collaboration and input in career exposure and exploration to ensure their students are supported in their exploration.

2.3   Prioritize and leverage the individual academic and career plan to start in middle grades and serve as a living document throughout a student's middle and high school experience.

    2.3.A Leverage the early warning system in middle school, called for in the *Blueprint*, to identify adjustments needed in a student's six-year plan for students who are at risk of not meeting the CCR standard at the end of 10th grade to ensure proactive outreach before students enter high school.

2.4 Develop and offer robust professional development and professional learning communities for all those providing and supporting college and career coaching to eliminate implicit or explicit bias in their work and support student flexibility in exploring and/or changing career paths.

2.5   Provide dedicated career coaching, academic guidance, student counseling services, and other relevant support to students who have yet to meet the CCR standard by the end of 10th grade.

Priority 3: All students have access to a comprehensive continuum of career-connected learning and exploration opportunities starting in middle grades or earlier.

The *Blueprint* sets a goal for 45% of public high school graduates to complete the high school level of a Registered Apprenticeship or another industry-recognized credential each year, beginning by the 2030-2031 school year. Registered Apprenticeship opportunities will be prioritized as the preferred industry-recognized credential for meeting this goal, since the *Blueprint* stipulates that, to the extent practicable, a majority of the 45% goal should be met through Registered Apprenticeship. Creating a career-connected learning continuum that includes career exposure, exploration, and preparation activities not only prepares students to successfully participate in Registered Apprenticeships but also enables systemic conditions for scaled, high-quality career development that progresses throughout K-12. This continuum also supports the early learning of career readiness so that students are well-equipped to meet the College and Career Readiness (CCR) standard by the end of 10th grade.

Strategies:

3.1 Develop a continuum of career-connected learning to demonstrate grade-appropriate opportunities around career exposure, exploration, and preparation, including defining the roles and responsibilities of key stakeholders (e.g., state and local agencies, career counselors, large and small employers, and intermediaries).

    3.1.A Identify resources to provide wraparound services and support that are responsive to student needs throughout the career-connected learning continuum experience.

3.2 Redesign CTE and career preparation pathways that have yet to incorporate Registered Apprenticeship and align instruction.

3.3 Partner with and incentivize Maryland employers, including nonprofit entities and apprenticeship sponsors, to develop meaningful and authentic career-connected learning opportunities for students, including special populations, across the upper elementary, middle, and high school levels.

    3.3.A Develop plans for participation specific to sector-based industry engagement.

3.4 Supply scaffolding support to Local Workforce Development Boards, Community Colleges, and LEAs to facilitate various types of career-connected learning experiences.

3.5 Modernize the state's Registered Apprenticeship approval process to make it easier and faster for employers and sponsors to establish new Registered Apprenticeships.

Priority 4: Provide high-quality CTE and other career preparation pathways, particularly those that support Registered Apprenticeships or other industry-recognized credentials.

The *Blueprint* prioritizes high-quality CTE and career preparation pathways through enrollment in Post-College and Career Readiness (CCR) pathways that lead to meaningful employment and earning industry-recognized credentials. Further, the *Blueprint* sets a goal for 45% of public high school graduates to complete the high school level of a Registered Apprenticeship or another industry-recognized credential each year, beginning by the 2030-2031 school year. Maryland's CTE system will seek to maximize the number of students participating in these types of opportunities.

Strategies:

4.1 Evaluate curriculum standards for CTE and other career preparation pathways routinely to ensure relevant and in-demand opportunities for Maryland students.

4.2 Develop and implement mechanisms and incentives to embed industry-recognized credentials (IRCs), as defined by the GWDB CTE Committee, into every CTE and career preparation pathway.[3]

4.3 Leverage CTE coursework and programs of study, provided by the Local Education Agency and/or Community College, to serve as all or some of the related instruction (RI) for the high school level of a Registered Apprenticeship as defined by the GWDB CTE Committee.[4]

4.4 Ensure robust systems for CTE and career preparation pathway approval and regular review to ensure their alignment to in-demand, high-skill, or high-wage careers, both statewide and regionally, including alignment to related instruction needed for Registered Apprenticeships where applicable.

4.5 Strategize effective recruitment standards, incentives, and professional development for CTE instructors within the lens of equity and access.

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[3] To review the GWDB CTE Committee approved definition of, criteria for, and approved list of industry-recognized credentials, please see policy issued [date] [insert updated link once posted].
[4] [link to HSLRA policy once posted]

Priority 5: All students can access robust technical instruction opportunities across content areas.

The *Blueprint* prioritizes strong literacy and mathematics skills for success in postsecondary education, training, and careers and works to extend intervention support to students who are identified as not progressing toward meeting the College and Career Readiness (CCR) standard. Creating integrated CTE academic courses (e.g., construction math, public health sciences, etc.) provides additional opportunities for students to demonstrate educational attainment in core academic subjects. Technical instruction integration across content areas reinforces and supports the *Blueprint*'s vision for students' academic and career success. This career preparation ecosystem recognizes and supports non-linear career progressions and is designed to allow all learners, not just those who opt into CTE programs, to get the skills they need, when they need them, without redundancy or limitations.

Strategies:

5.1 Implement course equivalency policies to enable Local Education Agencies (LEAs) to offer flexibility for students to meet graduation requirements and to eliminate course sequencing barriers to CTE enrollment.

5.2 Provide training and professional development for educators to meaningfully align technical instruction curriculum across academic content areas and course-sequencing.

5.3 Provide students with more opportunities to engage simultaneously in CTE and advanced coursework by developing guidance and a process for embedding AP, IB, and dual enrollment/early college courses into CTE Programs of Study.

5.4 Utilize the community college and university system to provide related instruction for dual enrollment and Registered Apprenticeships, including those that support degree apprenticeships.

Priority 6: CTE and career preparation pathways are aligned with industry needs.

The *Blueprint* prioritizes CTE and career preparation pathways that enable students to earn an industry-recognized credential or postsecondary certificate, including completing the high school level of a Registered Apprenticeship (RA) approved by the Division of Workforce Development and Adult Learning (DWDAL) within the Maryland Department of Labor (MD Labor). Establishing shared, statewide goals for a cohesive career preparation system that are closely aligned to industry needs can more fully meet the diverse needs of students.

Strategies:

6.1. Provide guidance and technical assistance for LEAs, Community Colleges, Local Workforce Development Boards (LWDBs), and employers to design flexible career pathways and Registered Apprenticeships (RAs) that align with state and/or local workforce demand.

      6.1.A Continuously engage employers and labor market information (LMI) data experts for guidance on industry and workforce needs to remain on the cutting edge of program offerings.

6.2 Identify regional and State partnerships and strategies that align with local resources and workforce demand to inform Post-CCR pathways.

      6.2.A Align existing federal resources and required processes (such as those related to statewide planning or CTE program quality assessment) to ensure federal dollars are used for systemic improvement and innovation to support the goals of the *Blueprint* and of this framework.

6.3 Ensure entities engaged in development of programs of study, Registered Apprenticeship, and industry-recognized credential offerings leverage state and/or regional labor market information (LMI) coupled with employer validation to ensure alignment of skill development to industry need and employability.

6.4 Ensure rigorous and comprehensive data and reporting on programs and employment outcomes for students who have completed a Registered Apprenticeship and/or earned an industry-recognized credential to demonstrate its effectiveness in contributing to workforce readiness and economic advancement.

6.5 Develop and define mechanisms for ongoing collaboration between LEAs, large and small employers, postsecondary institutions, Maryland Higher Education Commission (MHEC), LWDBs, Maryland State Department of Education (MSDE), GWDB CTE Committee, and MD Labor.

Next Steps

To advance Maryland's CTE Framework, an implementation work plan will be developed to assign clear roles and responsibilities for each listed strategy to ensure effective execution across agencies. This accompanying implementation work plan will be an accessible concurrent document to the CTE Framework that assigns detailed guidance for the who, what, where, and when of implementation.

Documents Cited

1. The AIB's Blueprint for Maryland's Future Comprehensive Implementation Plan (August 2023)
2. GWDB's CTE Committee Phase One Implementation Plan (March 2023)
3. MSDE's College and Career Readiness Roadmap to Implementation (August 2022)
4. Advance CTE's Strategic State CTE Priorities Crosswalk
5. GWDB's CTE Committee Career and Technical Education: Industry-Recognized Credentials (Spring 2024) - draft guidance currently under review as a result of public feedback
6. GWDB's CTE Committee Apprenticeships for High School Students in Maryland (Spring 2024) - draft guidance currently under review as a result of public feedback
7. Maryland CTE Four-Year State Plan (March 2020)

Appendices

1. **Glossary:** A defining list of terms, phrases, and system policies.
2. **Landscape Analysis:** A nationwide comparison of CTE strategic plans, visions, and frameworks was conducted to identify innovative state strategies and initiatives to improve and expand CTE and career preparation pathways. Each priority in the Maryland CTE Framework embeds promising practices from these state examples; this document demonstrates a few key excerpts appended into the *Blueprint*-aligned priority areas. Some international examples aligned with Maryland's apprenticeship goals are included.
3. **CTE Framework Development:** This document details the process of designing the Maryland CTE Framework, including ongoing work to request and incorporate stakeholder input.

Appendix 1 | Glossary

Career-Connected Learning - a continuum of learning experiences that includes career awareness, career exploration, career preparation, and/or career training through learning at work. These experiences are connected to learner interests and abilities and industry- or occupation-based needs and expectations.

Career Preparation Pathways - structured programs designed to equip students with the skills, knowledge, and experience necessary to enter and succeed in specific career fields. These pathways integrate academic coursework with hands-on training and work-based learning opportunities to ensure students are ready for both postsecondary education and the workforce.

College and Career Readiness (CCR) - a student's readiness to succeed in entry-level courses at a postsecondary institution or a professional pathway upon graduation from high school.

College and Career Readiness (CCR) Standard[5] -
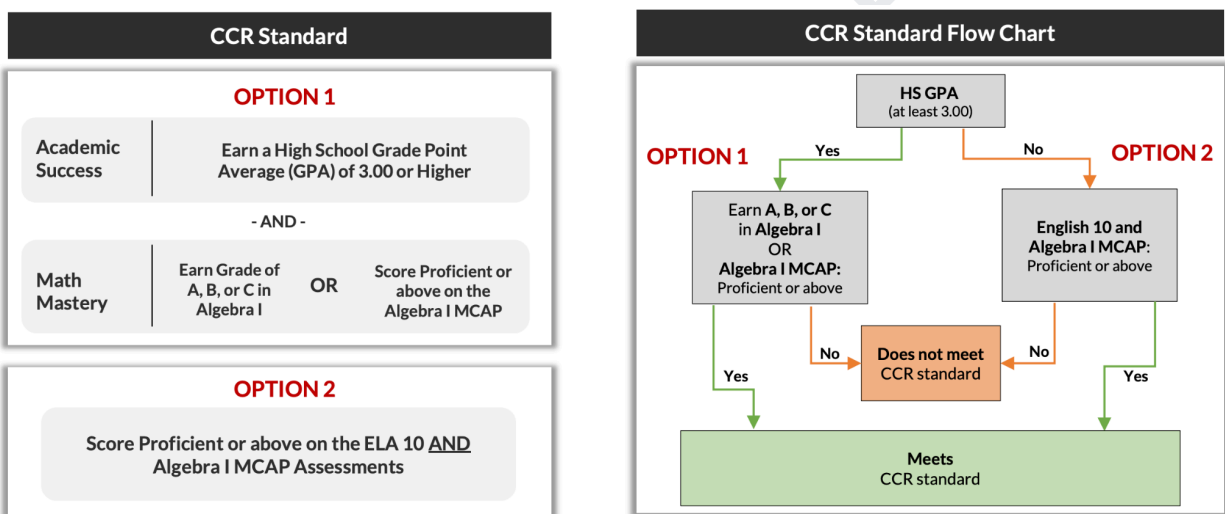
Comprehensive Local Needs Assessment (CLNA) - local applicants of the Carl D. Perkins Career and Technical Act (Perkins V) must conduct a comprehensive local needs assessment at least every two years and include it in their local application to be eligible to receive financial assistance. The law requires eligible applicants to describe how their career and technical education programs are sufficient in size, scope, and quality to meet the needs of all students served by the eligible recipient; and aligned to State, regional, Tribal, or local in-demand industry sectors or occupations identified by the State workforce development board or local workforce development board, including career pathways, where appropriate; or are designed to meet local education or economic needs not identified by State boards or local workforce development boards.

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[5]https://www.marylandpublicschools.org/stateboard/Documents/2024/0227/College-and-Career-Readiness-Updates-A.pdf

Degree Apprenticeships - an apprenticeship that combines work with postsecondary learning, resulting in an undergraduate or postgraduate degree upon completion.

High School Level of a Registered Apprenticeship (RA) - a Post-CCR pathway that is defined as completing the high school portion of a Registered Apprenticeship program before graduation. See the GWDB CTE Committee's policy issued {insert date & link to final} for detail on program requirements.

Industry-Recognized Credential (IRC) - 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 includes 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 to the labor market, and supports career advancement and economic development. See the GWDB CTE Committee's policy issued {insert date & link to final} for a full description.

Local Education Agency (LEA) - also known as a local school system or school district. Maryland has 24 local education agencies, one for each of the counties and Baltimore City.

Local Workforce Development Board (LWDB) - there are 13 local workforce areas in Maryland, each supported by a Local Workforce Development Board. The areas are guided and led by the private industry in the area to meet the current and future hiring needs of their employer community. The local workforce areas build connections between workforce development and economic development by serving as a vehicle for identifying needs and developing and ensuring implementation of an effective workforce strategy. Local workforce areas develop and oversee locally delivered workforce services as well as leverage community resources through their American Job Centers. Each area operates one or more American Job Centers.

Post-CCR Pathway - opportunities to pursue career interests for students who meet the CCR standard at no cost to the student or the student's parents/guardians. The options include: a competitive entry college preparatory program chosen by the local school board, consisting of the International Baccalaureate (IB) Diploma Program, the Cambridge AICE Diploma Program, or a comparable program consisting of Advanced Placement (AP) courses specified by the College Board; an early college or dual enrollment program at a student's high school and an institution of higher education that allows a student to earn an associate's degree or at least 60 college credits; and Career and Technical Education (CTE) programs, including those that support the high school level of a Registered Apprenticeship or another industry-recognized credential.

Special Populations - in Perkins V, special populations demographic groups include the following: (A) individuals with disabilities; (B) individuals from economically disadvantaged families, including low-income youth and adults; (C) individuals preparing for non-traditional fields; (D) single parents, including single pregnant women; (E) out-of-workforce individuals; (F) English learners; (G) homeless individuals described in section 725 of the McKinney-Vento Homeless Assistance Act (42 U.S.C. 11434a); (H) youth who are in, or have aged out of, the

foster care system; (I) youth with a parent who - (i) is a member of the armed forces (as such term is defined in section 101 (a)(4) of title 10, United States Code); and (ii) is on active duty (as such term is defined in section 101(d)(1) of such title; and (J) migrant students (secondary only).

Work-Based Learning (WBL) - a continuum of activities that occur in part or in whole in the workplace, providing the learner with hands-on, real-world experience. It combines skill development with training opportunities and is a key strategy in Maryland for developing talent and preparing students for the workforce and evolving labor market. The CTE State Plan emphasizes the importance of aligning WBL with curriculum and instruction to ensure that it fosters in-depth, firsthand engagement with the tasks required in a given career field.

Appendix 2 | Landscape Analysis

MD CTE Framework	Landscape Analysis
Priority 1	
Maximize the percentage of students who meet the state's College and Career Readiness (CCR) Standard by 10th grade, and ensure that all students have the opportunities and support necessary to meet the CCR Standard.	**Florida's** Talent Development Council's Strategic Plan for 2020-2030 lists equity and access as a strategic priority. The following are strategies that support this priority: ● Utilize data to identify benchmarks and targets to identify and address equity gaps. ● Conduct an inventory of current practices in education that are working to close equity gaps by gathering stakeholder input regarding programs and practices that will help address equity gaps. **Hawaii's** 2023-2029 Implementation Plan includes high-quality learning resulting in equitable outcomes as a strategic priority. The following is an action item that support this priority: ● Provide training and coaching for teachers to integrate activities that are culturally relevant with real-world application. **Nebraska's** Strategic Priorities include student achievement data use as major goals. The following are some strategies to support this priority: ● Analyze performance data to assess effectiveness in eliminating inequities in student access to success in high-quality CTE programs of study. ● Assist educators in making the formal shift to collecting data to ensure CTE programs are successful in serving all students.
Priority 2	
All students have access to high-quality, expert career coaching starting in middle grades and continuing through high school.	**Colorado's** 2019-2024 Strategic Plan lists access to ongoing career advisement and development as a strategic goal. The following are a few of the listed strategies that support this priority: ● Advisors, student services, and CTE instructors align efforts to have meaningful career conversations with students. ● Instructors are equipped with the skills to have meaningful career conversations with students about their skill sets and career choices. ● Instructors, staff, and counselors have access to current and relevant workforce data to guide learners to careers that provide a quality standard of living and future opportunities.

	Florida's Talent Development Council's Strategic Plan for 2020-2030 lists increased early career-related education and exposure as a strategic goal. The following is a select strategy that supports this priority: ● Build partnerships among K-12, postsecondary education, technical education, adult education, industry, apprenticeships, specialty training, and other partners to facilitate earlier engagement in career exploration and work-based learning opportunities for all student populations. **Hawaii's** 2023-2029 Implementation Plan lists that all K-12 students engage in various career, community, and civic opportunities as a desired outcome of their strategic goals. The following is a select department action item that supports this priority: ● Provide training, coaching, and resources for schools to offer age-appropriate experiences for career exploration and development that advance progressively through the K-12 continuum.
Priority 3	
All students have access to a comprehensive continuum of career-connected learning and exploration opportunities starting in middle grades or earlier	**Colorado's** 2019-2024 Strategic Plan includes access to meaningful work-based learning opportunities as a strategic goal. The following are strategies that support this priority: ● Key stakeholders lead work-based learning initiatives by collaborating with education and workforce partners. ● Local areas and state partners collaborate and provide clearly defined and readily available resources for learners, employer worksites, and educational institutions. ● CTE programs intentionally connect classroom instruction and activities with workplace skills, duties, and responsibilities. **New Mexico's** Strategic Plan includes experiential learning opportunities as a strategic goal to expand high-quality CTE. The following are objectives that support this priority: ● Increase the number of students who participate in and successfully complete experiential learning opportunities and earn an industry-recognized credential. ● Increase the number of employers partnering with schools to provide experiential learning opportunities. **Delaware's** Strategic Plan includes scaling and sustaining meaningful work-based learning experiences as a major priority. The following are strategies that support this priority:

	● Engage employers and local education agencies to build institutional capacity and facilitate work-based learning experiences. ● Ensure secondary students are successful in work experiences. ● Align data systems to improve work-based learning programming.
Priority 4	
All students have access to high-quality CTE and career preparation pathways that enable them to participate in Registered Apprenticeships and/or earn other meaningful industry-recognized credentials.	**Colorado's** 2019-2024 Strategic Plan lists quality CTE programs that meet industry needs as a major goal. The following are a few of the listed strategies that support this priority: ● Develop a rubric for evaluation of CTE program performance. ● CTE programs provide learners with technical training aligned to industry and academic standards. ● CTE programs use data related to in-demand occupations and student outcomes to create and sustain CTE programs of study. ● Educators and staff receive technical assistance to implement quality programs that qualify for approval. **New York's** 2021-2026 CTE Strategic Plan includes CTE program management as an area of focus. The following findings align with this priority: ● Develop targeted professional learning for teachers on project-based learning, culturally relevant and sustaining education, and upskilling via externships and long-term professional development opportunities. ● Ensure schools receive customized support towards receiving and maintaining program approval and progression to high-quality CTE. **Missouri's** CTE Advisory Council CTE Strategic Plan includes industry-recognized credentials/technical skill attainment as a major objective to enhance CTE program quality. The following are improvement actions that support this priority: ● Evaluate the relevance of current programs and create a plan to develop relevant programs to ensure that they meet the needs of business and industry. ● Develop a comprehensive professional development plan that supports CTE teachers' success and quality staff retention. ● Develop and implement a comprehensive and systematic process that increases the percentage of CTE students who are CTE Certificate earners.

Priority 5	
All students can access robust technical instruction opportunities across content areas, including advanced coursework.	**Ohio's** Credit Flexibility & Simultaneous Credit policies allow for students to integrate coursework and make connections across multiple disciplines. • *Simultaneous Credit* refers to full or partial credit students earn in more than one content are while they are enrolled in a single course. • *Credit Flexibility* is the customizing of educational delivery to the learning styles and interests of individual students. They customize aspects of their learning around their interests and needs, which might include flexible schedules and a choice of modalities (e.g., online learning, work-based learning and community-based projects), as well as options to pursue niche interest areas, combine subjects and graduate early. Linked Learning, a **California** statewide initiative, that combines rigorous academics, work-based learning, career and technical education (CTE), and student supports to prepare them for academic college, career, and life. • *Rigorous academics* aligned to admissions requirements for state colleges and universities. • *Career technical education* delivering concrete knowledge and skills through a carefully structured sequence of courses. • *Work-based learning* providing students with exposure to real-world workplaces through job shadowing, apprenticeships, internships, and more. • *Comprehensive support services* including counseling and supplemental instruction in reading, writing, and math to address the individual needs.
Priority 6	
CTE and career preparation pathways are aligned with industry needs.	**Delaware's** Strategic Plan lists alignment between education and workforce development efforts as a core priority. The following are a few of the listed strategies that support this priority: • Align data systems to improve policy and programming for in-school and out-of-school youth and adults. • Establish convening routines, partnership agreements, and a reflective process to share success, facilitate support, and engage in program improvement and innovation. **Maine's** 2022-2026 Strategic Plan includes cohesive alignment between education pathways and labor market needs as a major goal. The following strategic efforts support this priority: • Collect and analyze the alignment of workforce market data and CTE programs of study. • Sponsor statewide CTE workshop on emerging workforce trends. • Define the industry skill requirements for the current labor market and future workforce needs. **Colorado's** 2019-2024 Strategic Plan lists preparation for the

	workforce through industry partnerships as a strategic goal. A few of the listed strategies support this priority: ● Business and industry partners advise on developing CTE programs, standards, and sequencing. ● Partners align their individual efforts with priorities for the CTE system. ● Partners ensure relevant stakeholders are included and agree on shared priorities and action items.

Country	International Aligned-Examples
Australia	**Australia's BECOME Career Education Programme** aims to provide students with career education beginning in upper-elementary. The program's objective is that career education should be early, often, and integrated into students' broader education experience.
Germany	**German apprenticeships and vocational education and training systems** are embedded into their larger education system, with approximately 60% of professionals in their workforce having past apprenticeship/VET experience. This seamless integration helps advance Germany forward in select industries, such as manufacturing.
Switzerland	The **Swiss apprenticeship model** follows the supply and demand of labor market needs, hiring only as many apprentices as they anticipate needing in the coming years. Strong partnerships between employers and training providers benefit the overall system, especially students themselves.
Netherlands	Maastricht University in the Netherlands incorporates **Problem-Based Learning** **(PBL)**, which revolves around four learning principles: constructive, contextual, collaborative, and self-directed learning (CCCS). PBL engages in hands-on training, small group work, and specific lecture requirements. Similar to Maryland, PBL practices drove primary education systems towards preparing learners to meet secondary education requirements (testing included) to enter into a career pathway.

Appendix 3 | CTE Framework Development

The Framework for Career Technical Education (CTE) shall provide an overarching strategy for CTE in the State and support the implementation of the *Blueprint for Maryland's Future*.

PHASE 1: Develop a landscape analysis of CTE frameworks to inform Maryland's development of their own CTE Framework
- Input session with key Maryland staff at the GWDB and MSDE to provide additional context for the Blueprint and related state-level policies
- Identify promising state or national-level frameworks for CTE (e.g., strategic plans, visions, etc.)
- Analyze recent input from Maryland's stakeholders as collected through: WIOA State Plan process; Perkins State Plan process; industry-recognized credential framework public comment; apprenticeship framework public comment
- Analyze existing frameworks to find common themes and priorities ("crosswalk")
- Develop a landscape analysis for Maryland that:
    - Identifies key priority areas, as aligned with existing frameworks and the Maryland Blueprint, with detailed activities under each priority area
    - Offers recommendations of future areas of focus and actions the state should take to advance the Framework and the Blueprint
    - Embeds promising practices from states aligned to the priority areas

PHASE 2: Develop Maryland CTE Framework
- Draft the CTE Framework with weekly check-ins and ongoing input from key Maryland staff
- Generate input from the CTE Committee members and prepare the draft CTE Framework for stakeholder engagement

PHASE 3: Stakeholder Engagement
- Conduct stakeholder engagement, inclusive of three focus groups (representing Local Education Agencies, Community Colleges, employer and Workforce Board representatives) and individual interviews, to gather feedback on the CTE Framework
- Draft the final version of the CTE Framework based on stakeholder feedback and provide a summary of the input given throughout the process

PHASE 4: Updates/Delivery to CTE Committee
- Deliver finalized CTE Framework, updated based on stakeholder feedback, along with a summary of the input used to develop the draft, ready to be approved by the CTE Committee

About Advance CTE
Advance CTE is the longest-standing national non-profit that represents State CTE Directors and state leaders of Career Technical Education. Our mission is to support state CTE leadership to advance high-quality and equitable CTE policies, programs and pathways that ensure career and college success for each learner.