# Graduation Guidelines
# Work Group Reports and Recommendations
# <span style="color:red">DRAFT</span>     Executive Summary – INDUSTRY CERTIFICATION     <span style="color:red">DRAFT</span>

**INTRODUCTION:**

The Graduation Guidelines afford schools and districts the **option** to use industry certification to make student postsecondary and workforce readiness determinations for English, math, science and social studies.  To assist district and school practitioners that choose to include industry certifications in their local graduation guidelines, the Colorado Department of Education convened a statewide working group, charged with developing recommendations, resources, and tools for the implementation of industry certifications in graduation guidelines.  The guide created by this work group is designed for Colorado's educators to inform the design, implementation, evaluation, and continuous improvement of their district and/or school use of industry certifications to demonstrate postsecondary and workforce readiness.

**DEFINITION:**

**An industry certification** is an industry recognized third-party or governing board administered assessment, examination or licensure that measures occupational competency and validates a knowledge base and skills that shows mastery in a particular industry.  Some examples include:

- Completing an industry certification program and passing the industry recognized certification exam/license
- Passing an examination that enables the award of an industry certification
- Obtaining a state-issued professional license

**Benefits of Industry Certifications:** Industry certifications are a way for students to show they have specific, industry-needed skills and abilities, which increases their opportunities beyond high school.

- *For the student* - Industry certifications are a mechanism that allows students to demonstrate mastery of knowledge and/or skills. They can increase job prospects, marketability to employers, and employability, as well as options for post-secondary education.
- *For districts* - Certifications provide additional options for students by offering districts the opportunity to tailor graduation requirements to the unique needs of students and the local community, and promote increased student engagement.
- *For employers/industry* - Industry certifications demonstrate evidence of workers' competencies, thus supporting hiring practices and filling specific employer-demanded knowledge, skills and abilities.
- *For Colorado/local community* – Industry certifications connect skill sets of the workforce to workforce demand. This intentional connection addresses the skills gap while increasing an individual's earning potential.

**IMPLEMENTATION RECOMMENDATIONS AND GUIDING QUESTIONS:**

The unique needs and resources of each district will dictate the implementation of industry certifications as an approved component of a district's graduation requirement. The following are suggested steps that districts may consider for implementation.

**Assess the Need**: Perform a high-level assessment of the district or school's need and capacity to implement certifications as a component of the district's graduation requirement.  Addressing these questions will encourage and require collaboration and coordination among administration, faculty and staff, as well as post-secondary and industry partners.

- Is there a desire by key stakeholders to add Industry Certifications to the district's menu of Graduation Guidelines?
- Are there certifications currently being offered in CTE or non-CTE programs? (see CTE section for details)
- Is there curriculum in place that could lead to industry certification?
- Is there a strong alignment with local workforce needs?
- Do partnerships with industry and/or post-secondary institutions already exist? (see industry outreach section for a detailed checklist)
- Is there a mechanism for communicating the need for industry certifications to our local constituents (students, teachers, parents, community members)?
- Is there an existing committee or entity that can lead the implementation (e.g. shared decision making team, curriculum committee, etc.)?
- Does the existing staff have expertise is this area and what professional development might be necessary?
- Will identifiable certifications be district initiated, school initiated or student initiated?

**Outcome: Go, No Go Decision. If it is determined that there is a need and the approval from district leadership is received, the next phase is to design an Implementation Plan.**

**Design an Implementation Plan:** In addition to creating a diverse oversight committee, establishing a process framework, and creating a shared vision and purpose, districts should:

**1. Identify possible certifications** – when identifying certifications to support, consider alignments with:
- district initiated, student initiated, or program initiated processes
- district curriculum and academic standards
- existing or expected career pathways and/or CTE programs
- funding sources to support the costs of certifications
- local, regional, and state workforce needs
- accessible post-secondary programs
- ICAP implementation
- alignment to concurrent enrollment opportunities

**2. Create Industry Validation Processes** – Identify processes for identifying and documenting alignments to:
- Course Content through a sequence of courses (career pathways)
- Core content standards and CTE standards (*see standards alignment section*)
- Career and Technical Education (CTE) programs and/or courses *(see CTE integration section)*
- Alignment to Business/Industry needs and standards *(see Industry Engagement section)*
- Certifications and/or programs at post-secondary institutions *(post-secondary alignment section)*

**3. Identify Accountability Metrics** - Identify data related to the implementation of recognized certifications to collect. Examples include:
- Number of students and type of certificates that are awarded
- Number of students that are hired at least in part because they had the certification
- Number of students transitioning to post-secondary programs or additional training that align with the certification

**Please see the attached chart:**
*Does the Industry Certification (IC) Demonstrate Postsecondary Workforce Readiness (PWR)?*

## Standards Alignment

In order to use Industry certifications as an option for students to show academic knowledge and skill mastery for graduation the district must validate the academic standards that are addressed in the certification attainment process. Consider these sources:

- **Industry Certification Governing Body**. The governing body for an industry certification can often provide the specifications of the knowledge and skills that are assessed within the process of attaining the certification. Some may have an existing crosswalk between the technical content and academic standards that are aligned. (See list of certifications)
- **Colorado Career and Technical Education (CTE).** CTE programs are built from state recognized technical standards. In some programs, these standards were created based on an industry certification program. Colorado CTE standards have been cross-walked to Colorado academic standards and can be found at http://coctestandards.cccs.edu/.
- **Industry representatives**. Representatives who have obtained the certification being considered can assist in identifying the academic content that is addressed in the industry certification process.

Establish a standards alignment committee that will:
- Document the competencies that are developed and demonstrated through the certification process. These are often identified by the governing body of the certification.
- Identify and document the core competencies that are demonstrated through the attainment of the industry certification. The Colorado academic standards can be found at (http://www.cde.state.co.us/standardsandinstruction/GradeLevelBooks)
- Periodically review the identified alignments to maintain relevancy and currency

## CTE's  Role in Industry Certifications

Career and Technical Education programs are organized educational programs offering sequences of courses directly related to preparing individuals for paid or unpaid employment in current or emerging occupations requiring less than a baccalaureate degree. (Carl D. Perkins Vocational and Technical Education Act, Public Law 105-332)   Industry certifications offer a vetted method of signaling that students have acquired a defined set of skills and knowledge.  See the Colorado Community College System website for more information on Technical Skills Attainment: http://www.coloradostateplan.com/strategy4.htm

CTE programs offer a unique opportunity for the implementation of industry certifications into the curriculum. Programs often have an appropriate sequence of courses that seamlessly lead to an industry certification. Note that while there are community/technical college certificates signifying completion of a series of courses, this is not the same as an industry recognized certification.  Completion of a community/technical college series of courses can prepare a student to take the assessment to earn an industry recognized certification. CTE Plans of Study and Individual Career and Academic Plans (ICAP) can be used to guide students to develop and maintain a personalized plan that will ensure program and workforce success. (http://www.coloradostateplan.com)

## Industry Engagement

Industry engagement involves partnering with industry stakeholders to create educational programs that enable young people to acquire the knowledge, skills and attributes that are relevant in the current workforce.   Every approved career and technical education (CTE) program in Colorado is required is engage with industry through a program advisory committee. Each advisory committee is made up of individuals with experience and expertise in the occupational field(s) that the program serves who advise educators on the design, development, implementation, evaluation, maintenance, and revision of Career and Technical Education (CTE) programs within a career pathway.

Engagement with industry allows for:

- The community to be linked to the educational system via business, industry, and labor representatives that add expertise and resources to the certification program;
- Identification of new and emerging opportunities leading to modification of existing or creation of new certification programs;
- Communication among education, business, and industry regarding employment needs of the community;
- Validation of certification programs by providing student competency lists and reviewing curriculum;
- Assurance that each career pathway academic ladder matches the corresponding industry career ladder and career pathways within the community;
- Discussion of student outcomes (completion rates, placement rates, and state licensing examination outcomes);
- Relevancy of programs through assessment of equipment and facilities available and recommendations
- Opportunities for work-based learning experiences for learners and training opportunities for educators.
- Advocacy of certification programs to communities and
- Placement of program completers;
- leveraging of community resources (equipment, facilities, materials, and broker community partnerships).
- Funding opportunities for programs and/or certifications

## Sector Partnerships/Career pathways

A sector partnership is a model adopted by Colorado for workforce and economic development to ensure that the state has a skilled workforce trained to match the needs of local industry and to maintain the state's economic competitiveness.  The **Colorado Workforce Development Council** (CWDS) is the state-wide convener and facilitator for sector partnerships. CWDC is a public-private partnership of business, economic development, education, workforce development, and government at the local, regional, and state levels. CWDC owns responsibility for coordinating the work of the education and training partners to work with industry in educating and training the workforce of the future.  The work of CWDC and its other statewide partners, such as the Colorado Department of Labor and Employment, is to promote business-led regional public-private partnerships to address the skill needs of critical industries in a region.

**Sector partnerships** bring employers from the same industry together with the education, training and other community support programs needed to implement solutions and services that ensure a target industry thrives. They support current or the establishment of new career pathways -  a series of connected education and training programs, work experiences, and student support services that enable individuals to secure a job or advance in a demand industry or occupation.  Sector partnerships can be a resource for identifying industry certifications,  and they are focused at the local and regional level.

## Postsecondary Engagement

**Concurrent Enrollment  -** Because industry certifications may be earned by taking a series of courses that are taught through a postsecondary education institution, a student could potentially begin earning postsecondary credits while still in high school and working towards an industry certification.  Concurrent enrollment courses  include CTE postsecondary programs many of which may end with the ability to sit for an industry certification examination.

**Stakable Credentials** These are credentials that are "part of a sequence of credentials that can be accumulated over time to build up an individual's qualifications and to help him or her move along a career pathway or up a career ladder to different and potentially higher-paying jobs."  Industry groups are working to identify a series or sequence of stackable credentials that can prepare students for employment in the industry.  Some Colorado examples include Advanced Manufacturing Pathways, and Healthcare Pathways.

**RESOURCES:**

Several schools, districts and organizations have developed tools and resources to support the effective implementation of industry certifications. Below are links to those organizations.

**Sector partnership websites:**
- https://www.colorado.gov/sectors
- https://www.colorado.gov/cwdc
- https://www.colorado.gov/pacific/cwdc/sector-strategies

For more information on **CTE Advisory committees see:**
- http://www.coloradostateplan.com/AdvCommHdbk/AdvCommDev.htm

For resources on implementing **concurrent enrollment** in your district, visit:
http://www.cde.state.co.us/postsecondary/concurrentenrollment

For more information on **stackable credentials** and further examples:
http://wdr.doleta.gov/directives/attach/TEGL15-10a2.pdf
http://www.clasp.org/resources-and-publications/files/2014-03-21-Stackable-Credentials-Paper-FINAL.pdf

**State level examples:**
- Florida - http://www.fldoe.org/workforce/indcert.asp
- Georgia - http://www.gadoe.org/Curriculum-Instruction-and-Assessment/CTAE/Pages/Industry-Certification-Standards.aspx
- Maine - http://www.maine.gov/doe/cte/
- Maryland - www.MarylandPublicSchools.org.  Click first on Divisions and then on Career and College Readiness.
- Mississippi - http://www.mde.k12.ms.us/career-and-technical-education
- Pennsylvania - http://www.pde.state.pa.us/portal/server.pt/community/teacher_resources/7392/industry-recognized_certifications_for_career_and_technical_education_programs/507887
- Texas - http://www.achievetexas.org/
http://cte.ed.gov/docs/DQI/TEXAS%204%20Industry%20Certification%20Guide.pdf
- Utah -  http://www.schools.utah.gov/ate/skills/skills.htm
- Virginia - www.doe.virginia.gov/instruction/career_technical/path_industry_certification/index.shtml

**District and School Initiatives**
- **Brevard Public Schools, Florida -** www.ctebrevard.com/IndustryCert-Student.htm
- **Douglas County School District, Colorado**
www.oracle.com/us/corporate/profit/features/040309-coloradoschools-143603.html

**RESEARCH & RELATED RESOURCES**

Blansett, S. P., & Gershwin, M. C. (2005). Developing a statewide work readiness credential in Colorado: A preliminary assessment. *Report to the Colorado Workforce Development Council*. https://e-colorado.coworkforce.com/File.aspx?ID=27532

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Lohman, E. M., & Dingerson, M. R. (2005). The effectiveness of occupational-technical certificate programs: Assessing student career goals. *Community College Journal of Research and Practice, 29*(5), 339-355. http://dx.doi.org/10.1080/10668920590911850

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