Graduation Guidelines
Work Group Reports and Recommendations
DRAFT   Executive Summary – PORFOLIO and CAPSTONE   **DRAFT**

INTRODUCTION:

Colorado's Graduation Guidelines provide a unique opportunity for local districts to determine how they will measure student achievement beyond formal test scores. The use of portfolio and capstone projects allows flexibility to identify the competencies students will demonstrate (what we want students to know and be able to show) and the means by which those competencies will be assessed. Districts decide if these approaches meet the needs of their students, and if they have the capacity to implement such systems.

DEFINITIONS:

A PORTFOLIO is a purposeful collection of students' individual work that exhibits their efforts, progress and achievements over time against a set of clearly defined outcomes.

Charlotte Danielson and Leslye Abrutyn identify different types of portfolios. These classifications illustrate how various portfolios can address unique purposes, and they include: Working, Assessment, Employment, and College Admission.[1] Each type of portfolio can be used to fulfill different requirements of the *Colorado's High School Graduation Guidelines.* The table below details how different types of portfolio align to the guidelines.

Type	Description	*Guideline* Alignment
Working	An intentional collection of student "work-in progress" guided by learning objectives. The working portfolio complements the assessment portfolio.	A working portfolio is a *tool* for students to collect work that demonstrates 21st Century skills and/or competency in English, mathematics, science and/or social studies. Further, because students can receive formative feedback on their work and have the opportunity to reflect and revise, the working portfolio aligns with the guidelines by allowing students multiple, equally rigorous and valued ways to demonstrate competency of the knowledge and skills necessary for postsecondary education and meaningful careers. A working portfolio may also be used as a foundational resource for a capstone presentation.
Assessment	Documents **evidence** of disciplinary content knowledge and/or students' skills.	An assessment portfolio is evaluated as a collection of evidence that demonstrates 21st Century skills and/or competency in English, mathematics, science and/or social studies. An assessment portfolio may be used as a resource for a capstone presentation.
Employment	Contains a purposeful collection of evidence that demonstrate workforce readiness, including evidence of problem solving, adaptability and collaborative work skills.	Local district high school graduation requirements include successful completion of the Individual Career and Academic Plan, known as the ICAP, which include elements of both employment and college admission portfolios. Required by state statute for every ninth through twelfth grade student (or in the years required for a student to graduate), the ICAP is designed to assist a student and his or her parent or legal guardian in exploring the postsecondary career and educational opportunities available to the student, aligning course work and curriculum, applying to postsecondary education institutions, securing financial aid, and ultimately entering the workforce.
College Admission	Contains purposeful samples of student work for college admission. Contents are customized to meet the requests of universities, but often include best work.	

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[1] Danielson, C. & Abrutyn, L. (1997). An Introduction to Using Portfolios in the Classroom. Association for Supervision & Curriculum Development, Alexandria, VA.

School and/or districts should choose the type of portfolio based on their priorities and objectives. For example, if student demonstration of 21st Century skills *and* competency in English, mathematics, science and/or social studies were the desired outcome, then a combination working/assessment portfolio would be most appropriate. If exploring the postsecondary career and educational opportunities were a local priority, then a modified, combination employment/college portfolio would work well.

A CAPSTONE is the culminating exhibition of a project, performance, or structured experience that demonstrates learning of pre-determined outcomes.

Patricia J. Kannapel, a Research Consultant at the Appalachia Regional Comprehensive Center at Edvantia, lists a variety of capstone experiences: portfolio of best work; curriculum-based, research project; set of experiments organized around a central problem; community service project or service learning activity[2]; This table defines and details how these different capstone experiences align with *Colorado's High School Graduation Guidelines.* Selecting the appropriate capstone type depends on your district's desired outcomes.

Type	Description	*Guideline* Alignment
Portfolio Defense	Portfolio of best work that displays skills and proficiency in identified content area(s).	Students may demonstrate 21st Century skills and/or competency in English, math, science and/or social studies, as well as 21st Century skills through Capstones.
Research Exhibition	Findings of a curriculum-based, research-project.	
Experiment	Findings of a mathematical or scientific experiment.	Students may demonstrate competency in math or science through Capstones.
Service Learning	Demonstration of learning experienced through service to the community.	Local district high school graduation requirements include student demonstrations of 21st Century skills in addition to the attainment of the minimum academic competencies. The skills include critical thinking and reasoning, information literacy, collaboration, self-direction, and invention.
Event Coordination	Display of learning experienced through community event coordination.	

Note these are examples only. Districts are not limited by these options.

ASSESSMENT: Process to measure performance against a set of clearly defined outcomes.
- **Formative Assessment:** Continuous review and feedback regarding progress towards achieving a set of clearly defined outcomes.
- **Summative Assessment:** Final measure of performance against a set of clearly defined outcomes.

PORTFOLIOS AND CAPSTONES: Although portfolios and capstones can be used independently of each other, student learning is maximized when they are employed in unison. A student's exemplar work is often displayed in an *assessment* portfolio and then presented for evaluation during the portfolio *defense*. The contents of the portfolio are created and collected throughout the students' high school experience, and benchmark exhibitions are common in the sophomore or junior year. The defense usually occurs in a student's senior year and serves as a summative assessment of postsecondary and workforce readiness.

IMPLEMENTATION RECOMMENDATIONS:

The adoption of the *Colorado High School Graduation Guidelines* has provided local school districts flexibility in determining how students can demonstrate mastery of course knowledge and skills. As local school district's Boards of Education develop their own high school graduation requirements, it is recommended they consider the use of student portfolios and capstone experiences as part of the process. When developed through an inclusive process, portfolios and capstone experiences offer an authentic, rigorous learning experience for students, and they provide school faculty and staff a meaningful professional growth opportunity. Portfolios serve as a mechanism for students to curate and display high quality work that demonstrates their mastery of course content and college readiness. Capstone projects or courses provide opportunities for students to draw on knowledge and skills from a variety of content areas and learning over the course of time and apply it in meaningful ways.

School boards and districts should consider aligning this option with the district graduation requirements, especially if capstone or portfolio projects are already a part of the school culture and/or curriculum.

If a district or school is interested in incorporating capstone or portfolio projects to their graduation requirements, the school leaders should:
- Plan for success by assessing school readiness, addressing the needs of students and staff, developing an action plan and timeline, and creating the conditions for success
- Follow a design, planning, implementation, and evaluation framework
- Implement the plan, gather data and monitor progress
- Consider and overcome challenges
- Evaluate and strengthen the capstone and/or portfolio process


GUIDING QUESTIONS: Assessing School Readiness

In the initial phase, districts and/or schools can build the case for *why* the implementation of capstone and/or portfolio projects make sense in your community. The strongest practice or approach will help students demonstrate academic, professional, and entrepreneurial competencies and will encourage them to develop expertise in an area of deep interest. This investigative process encourages and requires a high degree of collaboration and coordination among faculty and staff.

Before implementing a portfolio and/or capstone system the school leaders, and faculty should undertake an assessment of their readiness. This process is intended to help them identify the assets and capacity they already bring to the effort, and where they need to build additional capacity. Districts and schools could answer these questions and complete the *Readiness Checklist (at the end of this executive summary).*

- Do we have a clearly defined curriculum or set of outcomes for students currently? If not, what would it take for us to define those graduation outcomes (competencies)?
- Do we have mechanisms in place to assist with implementation of a portfolio or capstone experience in our school (e.g. an advisory program, senior seminar course, common planning time for teachers to collaborate)?
- Can we communicate the need for such an approach to our local constituents (students, teachers, parents, community members)?
- Do we have an existing committee or entity that can help guide the implementation of such an approach (e.g. shared decision making team, curriculum committee, etc.)?
- What expertise does your staff currently have and what new expertise might they need to develop? (e.g. assessment literacy, collaborative assessment of student work, providing students' targeted feedback, etc.)
- Do we have a clear purpose for how this will benefit our students?
- Do we have high, and realistic, expectations in place for students that will help prepare them to succeed at a portfolio or capstone experience?

Design, Planning, Implementation & Evaluation Framework

Assuming the district and/or individual school has determined that the school is ready to move forward. The following framework will help guide the design, implementation, and evaluation of a capstone and/or portfolio initiative. The framework is meant to provide several specific steps that are flexible enough to be customized to your local community.
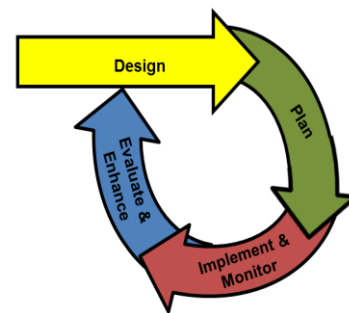
The framework begins with a *design phase* that is both collaborative and iterative. The goal of this phase is to engage a variety of constituents in the conceptualization of how portfolios and capstones might meet the needs of students. The design phase involves identifying key competencies for students to demonstrate; developing an assessment process (including a way to ensure rigor and validity); and a chance to review other successful models to inform the design. The *plan phase* is intended to help identify the needs of students and teachers to ensure they are properly prepared and supported throughout implementation. It is also a time to develop a concrete action plan with a timeline. The third phase is the time to *implement and monitor* the portfolio and/or capstone approach. It is during this phase that the action plan is operationalized and data is collected on what is working with the design and what can be improved. It is also the intent that the planning and implementation phases both inform the design. As elements need to be changed or modified, the data collected informs improvement of the overall process and the original design. The *evaluate and enhance phase* provides an opportunity to take stock of the successes or areas for growth. While data analysis and overall reflection is ongoing, there is a time for formal summative assessment of the students and of the process for that year. There is always another opportunity to refine the design, make adjustments to the implementation plan or update resources and materials necessary for student success.

DESIGN	PLAN	IMPLEMENT & MONITOR	EVALUATE & ENHANCE
• Establish a *Design team* • Define the characteristics & needs of students • Determine **project purpose** (ex: assess student 21st century skills) • Establish **outcomes** for students, adults, program and **evaluation criteria** • Examine **models** • Design fair, reliable, valid **assessment system**	• Assess school readiness • Identify **needs** of students and teachers • Brainstorm **ideas** to address needs • Develop a **timeline** and an **action plan** • Develop **support** structures and systems within the school (ex: advisory, capstone course, etc.) • **Prepare** teachers and students (i.e. professional development, student body meetings) • Clearly **communicate** expectations to *all* stakeholders (i.e. community forums, parent nights, etc.)	• Implement the plan! • Determine who will monitor **implementation** • Gather & analyze **data** • **Adjust** as needed	• **Compare** desired outcomes with actual outcomes. • **Celebrate** growth and success • Identify strategies for **improvement** • **Refine** the design • **Repeat** implementation

For a detailed description of the phases of portfolio/capstone development, as outlined in this diagram, see *Portfolio and Capstone Guidebook* in the **RESOURCES** section of the online Graduation Guidelines Implementation Toolkit: www.cde.state.co.us/postsecondary/graduationguidelines/capstone.

BEST PRACTICES and TOOLS

To assist district and school practitioners that choose to include capstones and portfolios in their local graduation guidelines, the Colorado Department of Education partnered with the Asia Society's International Studies Schools Network (ISSN) to convene a statewide working and advisory group, charged with writing a *Portfolio and Capstone Guidebook*. The *Guidebook* is designed for Colorado's educators to inform the design, implementation, and internal ongoing program evaluation of their district and/or school portfolio and capstone initiatives and is available in its entirety online at www.cde.state.co.us/postsecondary/graduationguidelines/capstone.

Asia Society's International Studies Schools Network (ISSN) is a national network of design-driven public schools that are achieving success in attaining their core mission: to develop college-ready, globally competent high school graduates. ISSN schools have designed a robust approach to performance-based learning and assessment.

Students at **Envision School's *Metropolitan Arts and Technical High School*** campus in San Francisco, California develop and defend a *Benchmark Portfolio* during their sophomore year and a *College Success Portfolio* during their senior year. ***Appendix C*** summarizes the goals, portfolio organization, and portfolio defense agenda for Envision Schools. A short video, which introduces the portfolio development and the defense process at the *Metropolitan Arts and Technical High School,* can be accessed at https://www.teachingchannel.org/videos/success-portfolio-defense-eed.

At the ***Denver Center for International Studies*** **(DCIS**), 21st Century skills and global competence are priorities and the capstone presentation affords students the opportunity to demonstrate their abilities in these two domains. Student presentations are evaluated against a set of clearly defined performance outcomes that are communicated through the *Capstone Presentation Rubric* (see ***Appendix A***). A snapshot of the DCIS process, called Passages, and part of an actual DCIS student presentation can be viewed on the Teaching Channel at https://www.teachingchannel.org/videos/deeper-learning-senior-presentations-asis.

While the team is designing the first iteration of the portfolio and/or capstone system, it might be useful to **examine other systems**, including each model's intended audience, purpose, and approach to implementation. Some examples that may inform your own design include:

Asia Society's Graduation Performance System	http://sites.asiasociety.org/pglonline/about/our-initiatives/graduation-performance-system/
Envision School's Graduate Portfolio	http://www.envisionlearning.org/tools-and-resources/
Expeditionary Learning's Passages Approach	www.vimeo.com/68481107http://www.vimeo.com/68481107 http://www.vimeo.com/68481107
Virginia's Capstone Course	http://www.doe.virginia.gov/instruction/english/capstone_course/index.shtml
West Windsor-Plainsboro Regional School District	http://www.west-windsor-plainsboro.k12.nj.us/departments/Curriculum/21st_century_competencies

Rubric Design: Stanford University's Center for Assessment, Learning, and Equity (SCALE) defines the following criteria for quality rubric design:
- Rubric language is transparent and easy to interpret.
- Rubric language provides concrete images of proficient and advanced levels of performance, using descriptive, not quantitative or judgment-laden, language.
- Rubrics represent a developmental continuum based on observed patterns in student performance.
- Indicators are observable traits in student work products, and not processes that cannot be observed in the work itself.
- A scoring dimension reflects one major idea and is not overladen with too many indicators or ideas.
- Each dimension reflects relatively independent traits (minimal overlap with other dimensions)

RESOURCES

Several schools, districts and organizations have developed tools and resources to support the effective implementation of portfolios and capstones initiatives. Below are several links to these tools and resources.

Advisory	Book: How to Design an Advisory System for a Secondary School by Mark F. Goldberg. Available at ASCD: http://www.ascd.org/publications/books/198031.aspx Changing Systems to Personalize Learning: The Power of Advisories http://education.vermont.gov/documents/EDU-PLP_The_Power_of_Advisories.pdf http://www.brown.edu/academics/education-alliance/publications/changing-systems-personalize-learning-power-advisories
Performance Outcomes	Asia Society has developed a series of tools to clarify global competency goals, and help students and teachers document the contribution toward achieving those goals. For each subject area and for global leadership, they provide a rationale and series of tools to show what students need to know and be able to do. The "I Can Statements" are aimed at students, describing in first-person voice what he or she will be able to do in the benchmarked 5th, 8th, 10th, and 12thgrade years. A rubric lists specific evidence students demonstrate as they progress towards global competency. This is a tool for students and teachers alike. These tools can be found and downloaded for free at: http://sites.asiasociety.org/pglonline/teach/performance-outcomes-3/
Portfolio Defense	Envision Learning Partners - http://www.envisionlearning.org/tools-and-resources/
Rubrics	On Rubrics and Models, Part 2: A Dialogue | Grant Wiggins Designing Rubrics (Video) https://www.teachingchannel.org/videos/designing-rubrics Assessment for learning as background knowledge to inform rubric design http://www.ascd.org/publications/educational-leadership/may07/vol64/num08/Assessment-Through-the-Student's-Eyes.aspx Tame the Beast: Tips for designing and using rubrics, Andrew Miller http://www.edutopia.org/blog/designing-using-rubrics-andrew-miller
Service Learning	Engaged For Success: Service-Learning for Dropout Prevention http://files.eric.ed.gov/fulltext/ED503357.pdf Service-Learning as Evidence-Based Practice http://nmcommunityservicelearning.wikispaces.com/file/view/research+demonstrates+value+of+csl.pdf Colorado Service-Learning Council http://www.coloradoservicelearning.org/ Free Service-Learning Webinar Series http://gsn.nylc.org/topics/343

Readiness Checklist
Getting Ready for Success - Implementing Capstones in your School

Directions: Use this tool to self-assess your school's readiness to support the successful implementation of capstones. For each indicator, rate the level of implementation. After you have assessed your school readiness, review each domain and identify one or two priorities to address.

Main	Indicator	Level of Readiness				Priorities
		Not Present	Developing	Present	Strength	
Leadership	*Experienced and effective educators* are leading the initiative.					
	Schools/district leadership has high degree of *assessment literacy* and expertise (assessment design, performance assessment, rubrics and scoring).					
	A high-functioning *distributed leadership* model exists; including formal teacher leader roles/responsibilities and collaborative committee structures.					
	District fully supports the implementation of this initiative in terms of policy, funding, time and expertise.					
Vision & Mission	A *shared vision and commitment* to this initiative exists among all faculty, students and community members					
	Through a collaborative process, the school/district has developed a *strategy or plan to address 21st century skills* (as defined by the Graduation Guidelines)					
	The school utilizes a *collaborative design or feedback process* with community members for other initiatives (e.g., World Café, design thinking) or obtains feedback through frequent surveys.					
Culture	*College and post-secondary readiness* is the expectation for all students.					
	Faculty engages in *systematic, collaborative reflection* to ensure *continuous improvement* of their practice and student outcomes.					
	Norms and protocols guide the way faculty meet and interact with one another.					
Infrastructure	Structures that support close *adult/student relationships* while promoting personal, academic and social growth (e.g. Advisory, faculty mentors, etc.)					
	Site-based autonomy allows the school to make decisions about how to use time (scheduling), staffing and curriculum.					
	The *master schedule* is designed to allow for flexible grouping of students and interdisciplinary or project-based learning.					
	Regularly scheduled *time for teacher collaboration* is part of the schedule (common plan time, release time, PD time).					
	Robust structures exist that allow for *shared decision-making* and *faculty ownership* of school-based management and innovation (e.g. school improvement team).					

Main	Indicator	Level of Implementation				Priorities
		Not Present	Developing	Present	Strength	
Community Involvement	*Frequent updates and communication* to community members is offered by the school, both in writing and in person.					
	Community members have a *formal role in school-based decision making process* (i.e. sitting members on school committees).					
	Community partners (business/industry, civic, nonprofit) are *consulted and/or involved in the design and assessment* of student learning.					
	Community partners (business/industry, civic, nonprofit) *provide resources and expertise* to students and teachers frequently.					
	Community partners provide support to meet the academic, social, emotional and physical well-being of students.					
Curriculum Instruction and Assessment	A *clearly articulated curriculum* and set of learning outcomes exists for all courses/grade levels.					
	Learning targets or competencies exist for all courses (would be student "I Can" statements).					
	Multiple *interdisciplinary learning* experiences currently exist in the school.					
	Faculty are often involved in *curriculum design and revision*; have ownership over what is taught and how.					
	Courses currently exist that can serve as a *capstone course* or where *capstone projects* already exist.					
	The school uses a *variety of assessments* to gauge the growth and success of students (Formative, summative, benchmark, local and state assessments).					
	Opportunities for *out-of-school learning* exist in the school, including internships, service learning, travel and community based projects.					
	Faculty regularly *examines student work collaboratively* and scores work against rubrics.					
	Student *exhibitions of learning* occur frequently in the form of student-led parent conferences, public presentations, public defenses and project nights.					