| **Virginia Board of Education Agenda Item** | **Seal of the Commonwealth of Virginia** |
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# Agenda Item: K

## Date: September 19, 2019

### Title: First Review of the Senior Capstone Guidelines as required by House Bill 2662 (2019 General Assembly)

### Presenter: Dr. Dave Eshelman, Director Workforce Development and Initiatives

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## Purpose of Presentation:

Action required by state or federal law or regulation.Executive Summary:
In 2019, the Virginia General Assembly through House Bill 2662 (Landes) amended and reenacted §22.1- 253.13:4 of the *Code of Virginia* allowingthe Board to require students to complete a senior capstone project, portfolio, performance-based assessment, or structured experiment that relates to a work-based learning, service-learning, or community engagement activity. Through the legislative process, the bill language was amended to direct the Board of Education to develop and submit to the Chairmen of the House Committee on Education and the Senate Committee on Education and Health no later than November 1, 2019, guidelines for local school boards to develop and implement a senior capstone project, portfolio, performance-based assessment, or structured experiment.In order for the bill to become law, it must be passed and reenacted by the 2020 General Assembly.

## The senior capstone should align with and further develop the knowledge and skills attained through such work-based learning, service-learning, or community engagement activity. The bill further requires local school boards to develop and implement the capstone in accordance with Board guidelines. The guidelines should be informed by stakeholders including local school divisions, industries and educational organizations. They should consider the diversity among school divisions, the need for local flexibility, and the individualized needs of the communalities and industries across the Commonwealth.

On August 14, 2019, the Virginia Department of Education convened a group of educators from various professional organizations, school divisions, and the agency to begin drafting guidelines for a senior capstone. Best practices from other states, Virginia Governor Schools programs, current Virginia Department of Education capstone courses and other senior capstone projects from local school divisions were compiled and analyzed. Attachment A – includes a draft of the Senior Capstone Guidelines developed from the August meeting. A larger group of stakeholders including industry and higher education representatives will convene on September 25, 2019 to review the current draft and propose any additional edits and/or supports to help guide school divisions when developing local policies on the senior capstone requirement.

## Action Requested:

Action will be requested at a future meeting. Specify anticipated date below:

## October 17, 2019

## Superintendent’s Recommendation: The Superintendent of Public Instruction recommends the Board of Education receive for first review the Senior Capstone Guidelines as required by House Bill 2662.

## Previous Review or Action:

No previous review or action.

Background Information and Statutory Authority:

§22.1-253.13:4 of the *Code of Virginia:*

*…20. Students are required to complete a senior capstone project, portfolio, performance-based assessment, or structured experiment that relates to a work-based learning, service-learning, or community engagement activity. Such capstone project, portfolio, performance-based assessment, or structured experiment shall align with and further develop the knowledge and skills attained through such work-based learning, service-learning, or community engagement activity. Local school boards shall develop and implement any such capstone project, portfolio, performance-based assessment, or structured experiment in accordance with Board guidelines.*

HB2662 includes two reenactment clauses that state:

*2. That the provisions of the first enactment of this act shall not become effective unless reenacted by the 2020 Session of the General Assembly.*

*3. That the Board of Education shall develop and submit to the Chairmen of the House Committee on Education and the Senate Committee on Education and Health no later than November 1, 2019, guidelines for local school boards to develop and implement a senior capstone project, portfolio, performance-based assessment, or structured experiment. In developing such guidelines, the Board of Education shall consult with stakeholders representing a variety of local school divisions, industries, and education organizations and shall consider (i) the diversity of school divisions across the Commonwealth, (ii) the need for local flexibility, and (iii) the needs of communities and industries across the Commonwealth.*

Timetable for Further Review/Action:
It is anticipated that the Board of Education will approve this item at its October 17, 2019, meeting. Upon Board approval, the Department of Education will submit guidelines to the Chairmen of the House Committee on Education and the Senate Committee on Education and Health by November 1, 2019.

## Impact on Fiscal and Human Resources:

The administrative impact required in developing guidelines for a senior capstone will be absorbed within existing resources at the Department of Education.

**Attachment A**

**Virginia Department of Education Senior Capstone Guidelines**

The Profile of a Virginia Graduate establishes a new set of expectations – known as the 5 C’s: critical thinking, creative thinking, communication, collaboration, and citizenship skills. This approach will prepare every student with the content knowledge they need and the skills they need to apply it successfully after graduation.

**A successful Virginia Graduate will:**

* Achieve and apply academic & technical knowledge;
* Demonstrate workplace skills, qualities, & behaviors;
* Build connections and value interactions with others as a responsible & responsive citizen; and
* Align knowledge, skills & personal interests with interests with career opportunities.

**What is a Senior Capstone?**

A Senior Capstone is defined as a multifaceted assignment that serves as a culminating academic and intellectual experience for students, typically during their final year of high school. While similar in some ways to a college thesis, a capstone may take a wide variety of forms, but most are long-term investigative projects that culminate in a final product, presentation, or performance. They are generally designed to encourage students to think critically, solve challenging real-world problems, and develop skills such as oral communication, public speaking, research skills, media literacy, teamwork, planning, self-sufficiency, or goal setting - i.e., skills that will help prepare them for college, modern careers, and adult life. In most cases, capstones are also interdisciplinary, in the sense that they require students to apply skills or investigate issues across many different subject areas or domains of knowledge. Capstones also encourage students to connect their projects to community issues or problems, and to integrate outside-of-school learning experiences.

**Recommendation**

It is recommended for each student to meet regularly with their teacher supervising the Senior Capstone. The student may also work with other teachers and or business and community members based on the student’s field of study.

Senior Capstone should be challenging. They should require considerable effort on the part of the student in showing how they have applied their learning. If a student approaches the project step by step and meets the deadlines, he or she will be able to manage the project successfully. There are many benefits involved in a Senior Capstone such as:

1. Engages students completing the Senior Capstone as an “active learner” capable of solving complex problems and constructing meaning that is grounded in the world beyond the classroom that encourages collaborative learning with industry and community partners
2. Organizes curriculum around authentic student projects which serve as a basis for learning from technical and academic disciplines in an inter-disciplinary approach
3. Expands teaching methodologies providing students the ability to work independently, use problem solving skills which involves students as expert-practitioners who use and demonstrate their knowledge and skills, etc.
4. Engages students in complex, challenging tasks which allows for the integration of learning, generation of knowledge, reflection, and creation of a product, and provides the student with the opportunity to work with community partners
5. Meets rigorous and measurable standards for academic and technical performance that reflect global demands making a diploma meaningful
6. Serves as a capstone in the students' Career Pathway

While Senior Capstones can take a variety of forms from school to school or course to course, a few examples will help to illustrate both the concept and the general intentions.

**Capstone Project**

A Capstone Project involves several steps as indicated below.

1. Student selects a topic, gathers information, writes a research paper and keeps a portfolio of project activities.
2. Student produces a product/process that applies some aspect of the research.
3. Student makes a formal presentation to a panel composed of teachers and business and community leaders who know about and are interested in the topic. After the presentation, panel members ask questions about the research and the product/process and find out what the student learned during the project as well as review the student's portfolio.

**Guidelines for Capstone Projects**

General:

The Capstone Project is an integral part of a student’s final year of high school. It integrates skills, concepts and data from the student’s program of study into one culminating project. Students work on individual projects. Although, the product/process portion may have some joint relationship to other product/process project by other students, each presentation is completed independently.

A Capstone Project consists of a written research paper, a major product/process and an oral presentation. Individual teachers will dictate how the projects are graded. It is recommended for each school division to create sample rubrics that might be helpful.

Throughout the planning, implementation, and documentation of a Capstone Project each student connects and aligns their work to the 5 C’s identified in the Virginia Profile of a Graduate. This connection should be documented throughout the entire process in a manner specified by each local school division.

Capstone Project Topic Selection:

* It is recommended that each student’s Capstone Project topic be developed around the students’ career interests
* Initially, each student will select several possible topics for teacher approval
* Once a final topic is selected each student would identify the necessary business, industry and community resources

Capstone Project Component may include research paper, some type of product or process, and an oral presentation.

**Portfolio**

*Definition:* Student portfolios are collections of student work that are typically used for an alternative assessment grade in the classroom. Student portfolios can take a couple of forms. One type of student portfolio contains work that shows the student's progression through the course of the school year. For example, writing samples might be taken from the beginning, middle, and end of the school year. This can help show growth and provide teachers, students, and parents with evidence of how the student has progressed. The second type of portfolio involves the student and/or teacher selecting examples of their best work.

All documentation of the Product/Process will be included in the portfolio. Listed below are the suggested components of the Senior Capstone Portfolio.

* Each school division will determine the required components of the portfolio. Listed below are the following recommendations:
	+ A written log or timeline of the student’s hours
	+ A journal highlighting student’s experiences
	+ Pictures
	+ Letters of support from business and industry
	+ Detailed notes or data analytics
	+ A copy of the research paper

**Performance-Based Assessment**

Performance assessment measures subject-matter proficiency, requires students to apply the content and skills they have learned, and should present opportunities for students to demonstrate acquisition of the “Five C’s” – critical thinking, creativity, communication, collaboration and citizenship – described in the Board of Education’s Profile of a Virginia Graduate.

As students learn new skills and content, they should be given multiple opportunities to demonstrate mastery through the use of performance tasks. Both summative and formative performance assessments allow teachers and students alike to identify content that has been mastered, misconceptions, and gaps in learning. The evidence gained through performance assessment may be used to guide future classroom instruction.

* [Virginia Quality Criteria Tool for Performance Assessments](http://www.doe.virginia.gov/testing/local_assessments/performance-based/quality-criteria-tool.docx)  (Word) – details a set of criteria for the development of performance assessments that measure the application of content knowledge and skills. (Updated June 2019)

**Structured Experiment**

A more commonly known name for a Structured Experiment is an Independent Science or Engineering Research Project. The project should actively engage students in exploring and making sense of science-oriented questions and engineering solutions in the world in which they live. Students should develop driving questions that have grown from their observations of the world and their interests. Students then engage further by researching, observing, designing and conducting investigations, collecting and analyzing data, using and developing models and solutions to understand their question. Students communicate their understanding of the science or engineering solutions with evidence generated from their data to support their claims. All projects should culminate in both a written and oral presentation of findings to demonstrate student reasoning and understanding. Students should be encouraged to present their work at a local or regional science fair, Virginia Junior Academy of Science Research Symposium (VJAS), International Science and Engineering Fair (ISEF), or any other state or national competition.