Capstone Project Manual

Rhode Island Skills Commission

Explanation and Considerations for Use

The Capstone Project Manual was developed by the Rhode Island Skills Commission. It represents one possible way of implementing exhibitions. The Capstone Project Manual explains all of the required elements for completion of a capstone project as part of a Certificate of Initial Mastery—including the proposal worksheet, applied learning standards, the various roles and responsibilities, and all of the rubrics used in judging student projects and presentations.

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Capstone Project Manual

Capstone Project — The Final Piece of a CIM

As the culmination of achieving a Certificate of Initial Mastery (CIM), the Capstone Project requires you to focus in-depth on a core question you choose. The Capstone Project is included in your CIM Portfolio and plays an essential part in demonstrating that you can meet both applied learning standards, RI Grade Span Expectations, and content standards.

There are four applied learning standards that you must meet in the Capstone Project. These are:

- Problem solving, (This A1 standard is the <u>core</u> of your Capstone Project)
- Using communication tools and techniques,
- Using information tools and techniques, and
- Applying self-management.

You choose how to meet these standards through your Capstone Project.

• In addition to the applied learning standards, you must also demonstrate competency in at least one content area. In the Capstone Project, you have the chance to choose content and performance standards in one or more areas to provide the focus of your applied learning.

The Capstone Project begins with your interest in exploring a question through in-depth learning and research. Then, you must organize and plan how to find answers to your question. Throughout the process a project advisor will guide you. Once the project is completed, you will present your results to a judging committee.

Core Question — The Heart of a Capstone

The first step in creating a Capstone Project asks you to identify a core question. Core questions arise out of your interests and should lead you to applied problem solving.

The core question should be open-ended and exploratory. It is a path to knowledge, which allows you to acquire knowledge and use that knowledge to solve problems. Your core question should focus on applied learning and works best when it is rooted in real-world issues. Your core question will lead you to the creation of an identifiable product that can be judged for how well it meets the applied learning and content standards you have chosen.

You should choose one of the following applied learning problem-solving standards:

- **Designing a product, service or system** Identify needs that could be met by new products, services, or systems and create solutions for meeting them;
- **Improving a system** Develop an understanding of the way systems of people, machines, and processes work; trouble shoot problems in their operation and devise strategies for improving their effectiveness; or
- Planning and organizing an event or activity Take responsibility for all aspects of planning and organizing an event or activity from concept to completion, making good use of the resources of people, time, money, materials and facilities. This event must include content standards.

Capstone Product — The What of a Capstone

Your Capstone Project provides you with a forum for analyzing, synthesizing, and implementing the skills and knowledge that you have gained throughout your education. Your Capstone Project is an opportunity to think critically about a subject of profound interest to you. Your Capstone Project will demonstrate that you have mastered a content area and can apply what you have learned to create a tangible product or service. Some examples are:

Examples of Design a Product, Service, or System, A1a

- Design a business plan; for example, a publication of a magazine for a student venture.
- Design a plan for development of a park or recreation area.
- Investigate an issue (social, political, scientific, moral/ethical, artistic) and propose possible solutions.
- Design a tutoring program for a software application.

Examples of Improve a System, A1b

- Improve the system for water treatment in a community.
- Design a curriculum unit to address a gap or a problem you have identified.
- Identify a problem within the structure of student government and make a proposed solution.
- Troubleshoot and repair faults in the operation of an automobile, mechanical device, or computer based system.

Examples of Plan and Organize an Event or an Activity, A1c

- Plan and organize a voter registration drive within the school or community.
- Arrange a series of career information seminars.
- Organize a community festival/business exposition.
- Organize an exhibition of student artwork.

Capstone Presentation — The How of a Capstone

The Capstone presentation is required after completing the Capstone product. This is your chance to showcase your work to an audience. You selected a topic of personal interest, researched it, created a product, service, or event, and produced a reflective narrative. You now have the opportunity to describe the process of learning, along with the results, to a judging committee. This is the culmination of your effort. Once you and your project advisor agree that your Capstone Product is ready, your advisor will contact your judging committee and give them a copy of your completed Capstone Product. During the presentation, you will be required to discuss the process and defend your response to your core question.

Choosing an Advisor

The Capstone Project Advisor is your guide for developing and executing your Capstone Project. As a coach, the advisor also acts as your advocate and liaison when problems arise. The specific roles and responsibilities include:

- Providing you with examples of high quality Capstone Projects helping you to establish standards for your projects.
- Assisting you in determining the appropriate content, RI Grade Span Expectations, and Applied Learning standards.
- Approving your proposal.
- Assisting you with the project rubrics that assess the applied learning and content standards for the project.
- Directing you to experts for assistance.
- Outlining a process that allows ongoing evaluation of the project's quality and rigor.
- Monitoring and helping you meet your project schedule.
- Providing the availability of an appropriate judging committee for the Capstone presentation.
- Evaluating the project and the presentation utilizing applied learning and content standards.

Guidelines and Sample Templates — Part 4

Capstone Roles and Responsibilities

Students – This refers to students who complete the Capstone either independently or within the frame work of a Capstone class.

- □ Identify a core question that allows an in-depth exploration of a topic whose goal is problem solving.
- □ Write a pre-proposal to share with the project advisor. The Capstone Project must address applied learning and content standards.
- □ Write a formal proposal and have it approved by the project advisor.
- □ Work with advisor to identify experts who can help with the project.
- Maintain a journal, documenting ALL of your work on the project and share it with your advisor. Reflection and revision will be an ongoing part of the process.
- Develop and adhere to a timeline for the major activities in your project, including regular meetings with the project advisor.
- □ Conduct thorough research on content. Document your progress with photos or video if applicable. Consult regularly with your advisor to ensure that you are meeting the requirements of your content standards.
- □ Keep an annotated list of sources used. This must be included in your final product.
- □ Maintain a portfolio of the various Capstone components: time line, research, annotated list of resources, journals, etc.
- Refer to the final product rubric that reflects the New Standards Applied Learning Standards, the RI Grade Span Expectations, and content standards selected for your Capstone Project.
- □ Complete the final product.
- Obtain outside evaluation of your product if appropriate.
- □ Provide adequate self-evaluation of your product.
- □ Review the final product with the project advisor before the final presentation. Make any necessary changes in sufficient time for the judging committee to review the product.
- □ Refer to the final oral presentation rubric.
- □ Prepare a folder for review by the judges of your final presentation.
- □ Write a reflective narrative and include it in your folder.
- □ Include media that effectively communicate the necessary elements of your presentation.
- □ Present the Capstone product to the judging committee.
- □ Revise your Capstone Project if you do not meet standard.

You are ultimately responsible for the success of the Capstone Project. You must work closely with the Capstone Project Advisor (and Capstone Project teacher where applicable).

Advisors (and Capstone Teacher where applicable)

The Capstone Advisor is the guide for developing and executing the Capstone Project. As a coach, the advisor also acts as the student advocate and liaison when problems arise. The advisor must be a member of the school faculty. A student may also choose to work with a mentor from the community.

- □ Introduce the student to the design of a Capstone Project.
- □ Help student identify a core question.
- □ Help student identify the appropriate content standards.
- □ Assist the student in developing an accepted proposal that addresses the required applied learning, grade span expectations, and content standards. Review and agree to any changes after the original proposal is accepted.
- □ Monitor the process of completing the project.
- **D** Review the student's Capstone portfolio for proper documentation.
- □ Assist student in identifying appropriate expert(s) to assist with his/her project.
- □ Review and revise the project timeline with the student, establish a reporting schedule for the student to report on progress to the advisor.
- □ Make certain the student is familiar with the appropriate applied learning standards and all rubrics that will guide the student during the project.
- □ Monitor the student's progress in content research.
- Review the final product and the reflective narrative before the Capstone presentation. Identify changes that must be made before the student can present.
- □ Attest that the student's content is sufficient to meet standard.
- □ Assist the student in determining the appropriate items to be included in the final presentation folder.
- □ Attend and take part in evaluation of student's final presentation.
- □ Provide feedback to student on final presentation of Capstone Product.

SAMPLE CAPSTONE ADVISOR TIMELINE

Every week you should check the following:

- Annotated sources
- Journals (this will give you a good idea of what student is doing, how he/she is progressing)
- Set short and long-term goals, add to and edit timelines, and verify that the student is going in the right direction.

Stage One

- Discuss, review, and sign proposal
- Examine 3 final rubrics and use these to guide student work
- Identify content standards
- Create a plan for research

Stage Two

• Identify sources of evidence and check validity

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- Select most important evidence and place into context
- Discuss challenges and roadblocks (What's missing? Will this information help me produce my product? What needs to be improved, changed, redone, redefined, etc?)
- Reexamine rubrics and use as a guide for the next phase

Stage Three

- Product and multi-media presentation should be taking tangible shape
- Final research completed
- Begin to rehearse oral presentation
- Examine 3 final rubrics to improve product and presentation

Stage Four

- Complete product
- Sign off on Applied Learning and Content Rubrics at least one week prior to oral presentation
- Rehearse oral presentation
- Make sure that evidence is cited throughout the oral and multi-media presentations, as well as the final product.

School/District

The school and district must be committed to creating a support system that enables you to accomplish the Capstone Project. It is recommended that these roles be aided by a CIM Coordinator. Some specific roles and responsibilities include:

- □ Providing advisors with support, staff development, and leadership.
- □ Informing parents / guardians of the requirements of the Capstone Project.
- D Providing students with time/permission/resources to conduct the work to complete the Capstone Project.
- Arranging a system to allow students, during school hours, to conduct off-campus research, internships, and activities.
- Compiling and keeping an up-to-date list of outside resources that can assist in supporting and mentoring students.
- □ Managing the organization necessary for the Capstone presentations, including scheduling presentations, finding appropriate judges, and securing other resources (e.g., equipment, space, etc.).
- **D** Providing training for members of the judging committee.
- □ Providing the judging committee with copies of the reflective narrative and final product prior to the presentation.
- **D** Coordinating the scoring of the final project and presentation with the judging committee.
- **□** Ensuring that the final evaluation of Capstone Project and presentation are properly entered into the student record.
- □ Maintaining proper record-keeping of CIM tasks.

Judging Committee

The judging committee provides feedback to you on your Capstone Project and presentation. The judging committee is comprised of the project advisor and other adults from both the faculty of the school and the community at large. Their specific roles and responsibilities include:

- □ Participating in training for judging Capstone final presentation.
- □ Attending the Capstone presentation.

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- □ Reviewing the student's folder.
- **D** Judging the quality of the presentation utilizing the presentation rubric.
- □ Submitting a score on the final presentation.

Parent, Guardian, Community Adult

The Capstone Project generally will require the active support of an adult(s) outside of school to assist you in managing logistics and acquiring resources. Specific roles and responsibilities include:

- □ Assisting you in making adequate progress on your Capstone Project.
- □ Whenever possible, attending the Capstone presentation.

Applied Learning Standards (A1)

Below is the information on the Applied Learning Standards that you will need to select for your CIM Capstone Project. Use the subsequent pages to assist you in choosing from the requirements below.

- A1: Choose one of the problem solving standards.
 - a) Design a Product, Service or System
 - b) Improve a System
 - c) Plan and Organize and Event or an Activity

A2: Choose (a) and one other standard.

If your product in A1 is a multimedia presentation, such as a movie, then you must choose to write a report (A2b). If your product in A1 is a report, then you must choose to make a multimedia presentation. (A2c)

- a) The student makes an oral presentation of project plans or findings to an audience with expertise in the relevant subject matter.
- b) The student prepares a formal written proposal or report to an organization beyond the school.
- c) The student develops a multi-media presentation combining text, images, and/or sound.

A3: Choose (a) and one other standard.

(a) The student gathers information to assist in completing project work.

- (b) The student uses on-line sources to exchange information for specific purposes.
- (c) The student uses word-processing software to produce a multi-page document.
- (d) The student writes, adds content to, and analyzes a database program that uses a relational database.

(e) The student creates, edits, and analyzes a spreadsheet of information that displays data in tabular, numeric format and includes multiple graphs.

A4: Choose two of the standards below.

- a) The student learns from models.
- b) The student reviews his or her own progress in completing work activities and adjusts priorities as needed to meet deadlines.
- c) The student evaluates his or her performance.

A1 Problem Solving - You must build your project around one of the three standards listed below (A1a, A1b, A1c).

Identify the problem or issue you are trying to address. After writing the description of the problem review the three Problem Solving standards below and select the standard (A1a, A1b, or A1c) most appropriate to guide the work you do for your capstone project. You must address each bullet under the main standard you select.

Each project must involve subject matter related to the standards from English Language Arts, and/or mathematics and/or science, and/or other subject areas.

Choose	A1a Design a Product, Service or System
either	The student identifies needs that could be met by new products, services, or systems and creates solutions for meeting
A1a	them, that is the student:
A1b	• Develops a design proposal that:
or	• shows how the ideas for the design were developed;
A1c	• reflects awareness of similar work done by others and of relevant design standards and regulations;
	• justifies the choices made in finalizing the design with reference, for example, to functional, aesthetic, social, economic, and environmental considerations;
	• establishes criteria for evaluating the product, service, or system;
	• uses appropriate conventions to represent the design;
	• plans and implements the steps needed to create the product, service, or system;
	• makes adjustments as needed to conform with specified standards or regulations regarding quality or safety;
	• evaluates the product, service, or system in terms of the criteria established in the design proposal, and with reference to:
	• information gathered from sources such as impact studies, product testing, or market research;
	• comparisons with similar work done by others.
	• A product can take one of two forms:
	• A physical product designed to provide a preliminary solution to a problem.
	• An intellectual product which includes critical analysis of primary and secondary sources that investigates an issue and proposes alternative solutions.

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Check	A1b Improve a System
the standard you have	The student develops and understanding of the way systems of people, machines, or processes work; troubleshoots problems in the operation of a system in need of repair or devises and tests ways of improving the effectiveness of a system in operation, that is the student:
chosen.	 explains the structure of the system in terms of its: logic, sequences, and control;
	 operating principles, that is, the mathematical, scientific, and/or organizational principles underlying the system;
	• analyzes the way the system works, taking account of its functional, aesthetic, social, environmental and commercial requirements, as appropriate, and using a relevant kind of modeling or systems analysis;
	 evaluates the operation of the system, using qualitative methods and/or quantitative measurements of performance;
	• develops tests strategies to put the system back in operation and/or optimize its performance;
	• evaluates the effectiveness of the strategies for improving the system and supports the evaluation with evidence.
	A1c Plan and Organize an Event or an Activity
	The student takes responsibility for or all aspects of planning and organizing an event or an activity from concept to completion making good use of the resources of people, time, money, materials and facilities, that is the student:
	• develops a planning schedule that:
	• is sensible in terms of the goals of the event or activity;
	• is logical and achievable;
	 reflects research into relevant precedents and regulations; takes account of all relevant factors;
	 communicates clearly so that a peer or colleague could use it;
	 implements and adjusts the planning schedule in ways that:
	 make efficient use of time, money, people, resources, facilities;
	• reflect established priorities;
	 respond effectively to unforeseen circumstances;
	• evaluates the success of the event or activity using qualitative and/or quantitative methods;
	 makes recommendations for planning and organizing subsequent similar events or activities.

Supporting Applied Learning Standards (A2)

Each of the Applied Learning Standards below must be incorporated into your Capstone Project as indicated.

A2 Communication Tools and Techniques

You must make an oral presentation A2a and select one of the other two standards (A2b or A2c).

If your product in A1 is a multimedia presentation, such as a movie, then you must choose to write a report (A2b). If your product in A1 is a report then you must choose to make a multimedia presentation, (A2c).

In addition to A2a,	A2a The student makes an oral presentation of project plans or findings to an audience with expertise in the relevant subject matter, that is the student:				
check the other	• organizes the presentation in a logical way appropriate to its purpose;				
standard	• adjusts the style of presentation to suit its purpose and audience;				
you have	• speaks clearly and presents confidently;				
chosen.	 responds appropriately to questions from the audience; 				
	• evaluates the effectiveness of the presentation and identifies appropriate revisions for a future presentation.				
	A2b The student prepares a formal written proposal or report to an organization beyond the school, that is the student:				
	• organizes the information in the proposal or report in a logical way appropriate to its purpose;				
	• produces the proposal or report in a format similar to that used in professionally produced documents for a similar purpose and audience.				
	A2c The student develops a multi-media presentation combining text, images, and/or sound, that is the student:				
	• selects an appropriate medium for each element of the presentation;				
	• uses the selected media skillfully, including editing and monitoring for quality;				
	• achieves coherence in the presentation as a whole; communicates the information effectively, testing audience response and revising the presentation accordingly				

Supporting Applied Learning Standards (A3)

A3 Information Tools and Techniques

You must complete A3a and in addition select one of the other four standards below (A3b, A3c, A3d, or A3e).

Choose A3a	A3a The student gathers information to assist in completing project work, that is the student:				
and one other standard.	 identifies potential sources of information to assist in completing the project; 				
	 uses appropriate techniques to collect the information, e.g., considers sampling issues in conducting a survey; 				
	• interprets and analyzes the information;				
	 evaluates the information in terms of completeness, relevance, and validity; 				
	• shows evidence of research in the completed project.				
	A3b The student uses on-line sources to exchange information for specific purposes, that is the student:				
	• uses E-mail to correspond with peers and specialists in the subject matter of their projects;				
	 incorporates into E-mail correspondence data of different file types and applications. 				
	A3c The student uses word-processing software to produce a multi-page document, that is the student:				
	• uses features of the software to create and edit the document;				
	• uses features of the software to format the document, including a table of contents, index, tabular columns, charts, and graphics;				
	• uses features of the software to create templates and style sheets for the document.				
	A3d The student writes, adds content to, and analyzes a database program that uses a relational database, that is the student:				
	• writes a program capable of handling data with at least two files;				
	• creates macros to facilitate data entry, analysis, and manipulation;				
	• creates multiple report formats that include summary information;				
	• merges data from the data base with other files.				
	A3e The student creates, edits, and analyzes a spreadsheet of information that displays data in tabular, numeric format and includes multiple graphs, that is the student:				
	• creates a spreadsheet that displays the use of formulas and functions;				
	• uses features of the software to sort, arrange, display, and extract data for specific purposes;				
	• uses features of the software to create multiple spreadsheets and to synthesize the spreadsheets into a single presentation.				

Supporting Applied Learning Standards (A4)

A4 Learning and Self-Management Tools and Techniques

You must select two standards below and incorporate them into your Capstone Project.

Select two	A4a The student learns from models, that is the student:
standards.	 consults with and observes other students and adults at work and analyzes their roles to determine the critical demands, such as demands for knowledge and skills, judgment and decision making;
	• identifies models for the results of project work, such as professionally produced publications, and analyzes their qualities:
	• uses what he or she learns from models in planning and conducting project activities.
	A4b The student reviews his or her own progress in completing work activities and adjusts priorities as needed to meet deadlines, that is the student:
	• develops and maintains work schedules that reflect consideration of priorities;
	• manages time;
	• monitors progress towards meeting deadlines and adjusts priorities as necessary.
	A4c The student evaluates his or her performance, that is the student:
	• establishes expectations for his or her own achievement;
	• critiques his or her work in light of the established expectations;
	• seeks and responds to advice and criticism from others.

Proposal Worksheet

Use this sheet to develop your Capstone Project proposal. Make sure you address each of the components. Meet with your advisor to discuss the proposal. Both of you must sign the final proposal.

I. Core Question

Based on your interests, clearly stated as a question, open-ended and exploratory, related to real-world issues whenever possible, and directed toward a path to knowledge.

My Core Question is

My Capstone project title is

II. Select the Applied Learning Standards for the Project

After selecting the appropriate standards below, describe how you will use the standard and the indicators in your project. The Applied Learning Standards for my project are:

A1Problem Solving: Choose one of the problem solving standards.

(a)Design a Product, Service or System (b) Improve a System (c) Plan and Organize an Event or an Activity

A2 Communication Tools and Techniques: Choose (a) and one other standard.

If your product in A1 is a multimedia presentation, such as a movie, then you must choose to write a report (A2b). If your product in A1 is a report, then you must choose to make a multimedia presentation. (A2c)

(a) The student makes an oral presentation of project plans or findings to an audience with expertise in the relevant subject matter.(b) The student prepares a formal written proposal or report to an organization beyond the school. (c) The student develops a multi-media presentation combining text, images, and/or sound.

A3 Information Tools and Techniques: Choose (a) and one other standard.

(a) The student gathers information to assist in completing project work. (b) The student uses on-line sources to exchange information for specific purposes. (c) The student uses word-processing software to produce a multi-page document. (d) The student writes, adds content to, and analyzes a database program that uses a relational database. (e) The student creates, edits, and analyzes a spreadsheet of information that displays data in tabular, numeric format and includes multiple graphs.

A4 Learning and Self Management Tools and Techniques: Choose two of the standards below.

(a) The student learns from models. (b) The student reviews his or her own progress in completing work activities and adjusts priorities as needed to meet deadlines. (c) The student evaluates his or her performance.

III. Select the Content Standard(s) and Grade Span Expectations (where applicable) for the Project

With your project advisor select at least one content area and the related performance standards that will be addressed by the project. As well as indicating the standard or GSE number, you need to include the wording.

The content area and related performance standards for my project are

IV. Overview of the Proposed Capstone Project

Write a brief description of your Capstone project plan. In your description, include the project's field of inquiry, industry, or discipline you plan to investigate. Based on the sub-group of the Applied Learning Problem Solving standard you have chosen, describe the problem that the Capstone Project is trying to solve.



V. Explanation of Why You Selected this Project

Write a brief explanation of why you chose this particular field of inquiry, industry, or discipline to investigate.

VI. Preliminary List of Research Resources

Use the space below and extra sheets if needed, to list the books, journals, web sites, individuals, industries, or organizations that you will need to consult in order to complete this project.

(Project Advisor's Signature) (date)

(Student's Signature)

(date)

CIM Capstone Project Timeline

Once you and your advisor have agreed on the proposal, fill out a schedule of the work activities that you need to do in order to complete the Capstone Project successfully. Then, meet with your advisor to discuss the schedule. The timeline might change as the project progresses, but you need to be as specific as possible here.

Instructions

- Chronologically list all the major pieces of work you need to do from the beginning to the end of the project.
- List the resources to help you complete that activity such as research material, individuals to contact, and locations to visit.
- Write down the evidence that you will compile to show that each work activity has been successfully completed. You and your advisor need to work together to identify the evidence.
- It is recommended that you meet bi-weekly with your advisor to discuss the evidence you have provided.

Keep all the project documents related to your work activities together so that you can present them with your Capstone Project.

Capstone Process Journal Guidelines

Your journal is a reflection of your progress in problem solving. It also documents all the work you have accomplished for your project. It should be neat and organized. You may want to type it, especially if your handwriting is not neat. Your journal entries should not summarize your activities in the classroom.

The following are guidelines for what your journal needs to include and what it should look like when it is finished.

Specific criteria to include in each of your entries:

- Timeline
 - Starting dates for each activity
 - Estimated date of completion
- Evidence to show that each work activity has been successfully completed
- Reflection that shows evidence of problem solving.

To document your completion adequately, you must include some entries that reflect the following:

- Resources to help you complete the activity (materials, individuals to contact, locations to visit)
- Planned steps (what you did, what you saw, what you heard)
- Modifications you made to your original plan
- Evidence that demonstrates successful completion of activity
- Specific standards and/or GSESs addressed

A non-example would be:

September 16, 1999

I met my mentor and we talked about my project. Worked on my proposal. Made a journal entry.

Total hours: 5

An example of an appropriate journal entry:

September 16, 2004

Today, I met with my mentor for the first time for about an hour. My mentor is a mechanic who specializes in Ford engines. I told him about my plan to rebuild my '67 Mustang engine and put it in my car. I told him what I think the problems are, which are that the block is cracked, the engine needs new heads and pistons, and the carburetor is damaged and needs new parts. My mentor agreed to come take a look at the engine next week on Wednesday so we can determine if there is anything else that is wrong and figure out approximately how much this is going to cost me. The second hour I spent working on my proposal. I'm having trouble deciding how I am going to research engines and exactly what I need to learn to complete this project. I also typed my overview so I can show it to my teacher tomorrow. I hope she approves it! All of my work today related to Applied Learning 1b - I'm improving a system (my car engine).

(Journal examples adapted from Mountlake Terrace High School Journal Guidelines)

Reflective Narrative Guidelines

The reflective narrative affords students the opportunity to reflect upon their experiences. This reflection includes a chance to summarize the project, address problems encountered, analyze problem-solving strategies employed, and describe resulting learning and personal growth. It provides your evaluators with the background and context needed to understand the depth and scope of your project.

Your reflection must include the following:

- A summary of the research and components of your project
- A reflection on the problem solving process you undertook. This could include consideration of questions such as the following:
- What obstacles did you face?
- What solutions did you bring forth?
- What results or findings did you conclude?
- What would you have done differently and why?
- How would you use what you have learned in the future?
- Of what component are you the most proud and why?
- What advice would you give to a student undertaking a similar process?
- A reflection of your "new" learning
- A description of the role that your mentor or outside sources played in your project
- A reference to the appropriate Applied Learning and content standards.

Your reflection must also contain:

- An organizational structure that allows for a progression of ideas to develop and that includes:
- An introduction that engages the reader and establishes a context
- Clear development of ideas
- Closure
- Writing which meets or exceeds expectations for usage and mechanics (see attached rubric/checklist)

		On	Needs
	Standards	Standard	Revision
An organizational structure that allows for a	W-12-14.1		
 progression of ideas to develop which includes: An introduction that engages the reader and establishes a context Clear development of ideas Closure 	14.3, 14.5		
A summary of the research topic and components			
of your project			
A reflection on the problem solving process you undertook (including: obstacles, solutions, results/findings)	NCEE A1		
A reflection of your "new" learning			
A description of the role that your mentor or outside sources played in your project			
Analysis of the experience that conveys personal insight leading to new perspectives	W-12-14.6		
A reference to the appropriate Applied Learning and content standards	NCEE A1- A5		
Writing which meets or exceeds expectations for	W-1		
usage and mechanics (see attached rubric)	W-9		

Reflective Narrative Review

Note: Checklist created based on consultation of GSE W-12-14 (Reflective Essay) and NCEE Applied Learning Standards

Evaluation Rubrics

The following pages contain a series of rubrics that are to be used in the final evaluation of your product and presentation. With your advisor, review the following rubrics and determine whether your final project has met the appropriate Applied Learning and content standards you selected. There is a copy of the Applied Learning standards in this manual. You will notice that each Applied Learning standard is made up of several parts (identified by lower-case letters), and there are performance descriptions of what students are expected to know and be able to do for each part. You can use these performance descriptions to determine the criteria for meeting the parts of the standards your project addresses.

Final Product Rubric Components:

The following rubrics should be consulted to determine whether a student's final product meets or exceeds standard:

Applied Learning standard, you must use either:

- Ala Designing a Physical Product, Service, or System.....
- Ala Designing an Intellectual Product.....
- Alb Improving a System.....
- Alc Planning an Event or Activity

In addition:

Final Product Rubric for Content

Writing Conventions Rubric

Final Presentation Rubric:

For the final oral presentation, the following rubric must be consulted:

Oral Presentation Rubric

This presentation rubric should be used to evaluate the oral component of the Capstone Project, regardless of the Applied Learning standard (A1a, A1b, A1c) the student selects for his/her project. This rubric is based on RI Grade Span Expectations, the New Standards Applied Learning Standard A2, and English Language Arts Standard E3c. A student MUST meet standard on all indicators of the content section.

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Final Product Rubrics

It is understood that a student who exceeds the standard for any rubric has met all the indicators listed under Meets Standards and the indicators under Exceeds the Standard.

Category	Exceeds Standard	Meets Standard	Below Standard
Design Ideas	• Demonstrates sophisticated ideas for the design of the service or system, which reflects awareness of similar work done by others and relevant design standards and regulations.	• Demonstrates clear ideas for the design, which reflects awareness of similar work done by others and relevant design standards and regulations.	• Demonstrates limited ideas for the design, which may not reflect awareness of similar work done by others and relevant design standards and regulation.
Choices	• Provides detailed justification of choices made in finalizing the design, for example, functional, aesthetic, social, economic, and environmental considerations.	 Justifies choices made in finalizing the design, for example, functional, aesthetic, social, economic, and/or environmental considerations. 	• Lacks justification of choices made in finalizing the design.
Establishing Criteria	 Demonstrates considerable thought in establishing criteria for evaluating the product, service, or system. Uses sophisticated conventions to represent the design. 	 Demonstrates thought in establishing criteria for evaluating the product, service or system. Uses appropriate conventions to represent the design. 	 Lacks criteria for evaluation of the product, service or system. Lacks appropriate conventions to represent the product, service or system.
Implementation	 Provides a detailed outline of the planning and implementation steps necessary to create the product, service or system. Makes creative adjustments as needed to conform with specified standards or regulations regarding quality or safety. 	 Provides evidence of good planning and implementing of steps needed to create the product, service, or system. Makes adjustments as needed to conform with specified standards or regulations regarding quality or safety. 	 Does not provide description of the steps needed to plan and implement the product, service or system. Lacks evidence of adjustments needed to conform with specified standards or regulations regarding quality or safety.
Product Evaluation	 Provides sophisticated evaluation of the product, service or system in terms of the criteria established in the design proposal and with reference to information gathered. Provides accurate and in-depth comparisons with similar work done by others. 	 Provides thoughtful evaluation of the product, service, or system in terms of criteria established in the design proposal and with reference to information gathered. Demonstrates relevant comparisons with similar work done by others. 	 Exhibits limited evaluation of the product, service or system in terms of the criteria established in the design proposal and with reference to information gathered. Does not provide sufficient comparisons with similar work done by others.

Category	Exceeds Standard	Meets Standard	Below Standard
Design Ideas	• Develops an analytical, critical paper that provides a detailed description of how the ideas for the paper were formulated.	• Develops an analytical, critical paper that demonstrates how the ideas for the paper were formulated.	• Develops a paper that is not analytical and fails to demonstrate how the ideas for the paper were formulated.
Research	· Chooses and analyzes sophisticated research for intended product.	· Chooses and analyzes adequate and valid research for intended product.	• Fails to provide adequate and valid research.
	. Reflects thorough understanding of similar work done by others and presents it in a acceptable literary format.	. Reflects awareness of similar work done by others and presents it in an acceptable literary format.	. Lacks awareness of similar work done by others in an unacceptable literary form.
Choices	• Demonstrates sophisticated justification of choices with reference to functional, aesthetic, social, economic, or environmental consideration.	• Justifies choices made with reference to functional, aesthetic, social, economic, or environmental considerations.	• Lacks justification of choices with little or no references to functional, aesthetic, social, economic, or environmental considerations.
Establishing Criteria	• Establishes detailed criteria for analysis, developmental and critiquing of the topic.	• Establishes criteria for analysis, development and critique of the topic.	 Lacks establishment of criteria for analysis, developmental and critiquing of the topic.
Implementation	• Demonstrates sophisticated evidence of planning and development of the topic.	• Demonstrates evidence of planning and development of the topic.	• Does not establish criteria for development of the topic.
Conventions	• Demonstrates sophisticated use of appropriate conventions to establish the topic.	• Uses appropriate conventions to establish the topic.	• Demonstrates poor use of conventions to establish the topic.
Product Analysis / Evaluation	• Demonstrates sophisticated evaluation and critical analysis of the topic in terms of research and comparison to similar work done by others.	• Demonstrates thoughtful evaluation and critical analysis of the topic in terms of research and comparison to similar work done by others.	• Provides insufficient evaluation and critical analysis of the topic in terms of research and comparison to similar work done by others.

Category	Exceeds Standard	Meets Standard	Below Standard
Aim of the Project	Provides a detailed intended outcome of the project, which includes information about the problem that was being solved or the need being met, and clearly articulates the reasons and decision-making process used to select the project.	 Provides a description of the intended outcome of the project which includes information about the problem that was being solved or the need being met, and why the project was selected. 	Does not clearly explain the intended outcome of the project or provides little information about the problem that was being solved, the need being met, or why the project was selected.
Structure of the System	 Provides an excellent explanation of the structure of the system including the logic and sequence. Makes clear how the principles underlying the system were used to establish criteria for analyzing the system. 	 Provides a clear explanation of the structure of the system. Considers the logic, sequence, and operating principles underlying the system. 	 Does not clearly explain the structure of the system. Displays little or no attention to the logic, sequence, and operating principles underlying the system in the planning and implementation phases.
Analysis of the System	 Advances an extremely detailed analysis of the system that demonstrates a clear understanding of the functional, aesthetic, social and environmental requirements of the system as appropriate. Compares and contrasts the system to other systems and thoroughly takes into account central requirements and underlying principles. 	 Provides an analysis of the system that compares and contrasts the system to other systems and thoroughly takes into account functional, aesthetic, social and environmental requirements as appropriate. 	 Advances a rudimentary analysis and makes little or no attempt to compare and contrast the system to other systems. Gives little or no consideration to functional, aesthetic, social and environmental requirements.

Problem Solving Rubric — A1b Improving a System

Evaluation of the System	 Insightfully evaluates the operation of the system, using qualitative methods and/or quantitative measurements of performance. Thoroughly describes the strategies used to evaluate and improve the system and includes the collected and recorded data. Presents the collected and recorded data in a variety of forms and highlights any changes in performance between the current system and the original system, and the factors that contributed to the change in performance. 	 Evaluates the operation of the system, using qualitative methods and/or quantitative measurements of performance. Describes the strategies for collecting and recording data and any changes in performance between the current system and the original system. 	 Displays minimal strategies to evaluate the operation of the system, using qualitative methods and/or quantitative measurements of performance. Offers limited descriptions of the strategies used, and/or failed to evaluate the performance of the system at the outset.
Develops Strategies for Improvement	 Displays comprehensive test strategies for improving the system. Connects the analysis of data back to all aspects of the strategies presented and clearly shows how the strategies flowed from the analysis of data. 	 Offers effective test strategies for improving the system. Connects the analysis of data back to the strategies presented, and clearly shows how the strategies flowed from the analysis of data. 	 Selects inappropriate test strategies for improving the system. Is unable to connect these strategies back the original data and/or analysis of the system.
Evaluates the Effectiveness of Strategies for Improving the System	 Evaluates the effectiveness of the strategies for improving the system. Supports the analysis with data and thoroughly connects the explanations of how well the results matched to the criteria used in the evaluation. 	 Evaluates the effectiveness of the strategies for improving the system. Supports the analysis with data and an explanation of how well the results matched the criteria 	 Does not differentiate the effectiveness of the various strategies for improving the system. Cannot substantiate, with data, how well each strategy worked.

Category	Exceeds Standard	Meets Standard	Below Standard
Purpose of the Project	• Utilizes content standards from a variety of disciplines as a rationale for planning and as integral components of the event or activity.	 Utilizes content standards as a basis for the rationale for planning, and as an integrated component of the event or activity. Presents evidence that references the problem or the need for the event or activity. 	• Lacks sufficient evidence of use of content standards as a rationale for planning the event or activity.
Plan	 Demonstrates in-depth research into a broad range of precedents and regulations. Develops a very detailed planning schedule that facilitates implementation and takes into account the resources necessary, and the goals of the event or activity. Thoroughly describes the steps necessary to put the plan into action. 	 Demonstrates that proper research into relevant precedents and regulations has been completed. Writes a logical and achievable planning schedule that: efficiently uses the resources available; reflects the goals of the event or activity; and is easily understood by the intended audience. Clearly describes the steps necessary to put the plan into action. 	 Shows insufficient research of relevant precedents and regulations. Fails to include important details or research or to reflect the goals of the event or activity in the planning schedule. Inadequately describes or fails to describe the steps necessary to put the plan into action.
Implementation	 Includes detailed annotations or documentation of the implementation and adjusts the schedule in a manner that reflects reaction to as well as anticipation of established priorities and/or unforeseen circumstances. Makes excellent use of time, money, people, resources and facilities within the schedule. 	 Implements the plan and adjusts the schedule in ways that reflect the established criteria and responds effectively to unforeseen circumstances. Makes efficient use of time, money, people, resources and facilities. 	 Omits details in schedule or fails to make key steps clear or fails to demonstrate completion of the event or activity. Fails to adjust the schedule to compensate for unforeseen circumstances. Uses time, money, people, resources or facilities inefficiently.
Evaluation	 Evaluates the success of the completed event or activity using a variety of quantitative and/or qualitative methods. Makes well-constructed and thoughtful recommendations for planning and organizing subsequent similar events or activities. 	 Evaluates the success of the completed event using appropriate qualitative and/or quantitative methods in terms of the established criteria. Makes recommendations for others planning a similar event or activity in the future. 	 Uses inappropriate or insufficient quantitative and/or qualitative methods to evaluate the success of the completed event or activity. Does not include or shows insufficient reflection on recommendations for future events or activities.

Problem Solving Rubric — A1c Planning an Event or Activity

Final Product Rubric

Content Rubric

This rubric should be used to evaluate the content of both the written and oral components of the student's Capstone Project, regardless of the Applied Learning standard (A1a, A1b, A1c) the student selects for his/her project. The rubric is based upon standards and indicators from New Standards AL 2 and 3; E2a, b, e; and E4.

Category	Exceeds Standard	Meets Standard	Below Standard
Finding/ Citing Information	 Acquires extensive and relevant information from multiple sources such as print, graphic, internet, computer databases, and experimentation. When appropriate generates primary source information. Shows evidence in research processes that is both extensive and relevant and uses a variety of appropriate options to enhance report. Uses proper MLA or APA format. 	 Acquires adequate information from multiple sources such as print, graphic, internet, computer databases, and experimentation. When appropriate generates primary source information. Supports arguments with detailed evidence, citing sources of information as appropriate. Uses proper MLA or APA format. 	 Does not provide necessary information from outside sources. Shows limited evidence of adequate research processes. Lacks proper MLA or APA citations.
Evaluating Information	 Clearly distinguishes the relevancy and reliability of information and its impact on the credibility of topic. Provides an indepth evaluation of the accuracy and quality of the information using multiple sources. 	 Includes relevant, accurate, and reliable information appropriate for the topic. Evaluates the accuracy and quality of the information along with sources used to access it. 	 Excludes information that is relevant and/or critical that could enhance report. Is unable to differentiate between what is and is not accurate or reliable material.
Analyzing and Synthesizing Information	 Conducts a thorough analysis of information and synthesizes it into new knowledge. Advances a judgment that is interpretive, analytical, evaluative, and reflective and supported with multiple references. Uses a range of sophisticated strategies to elaborate and/or persuade such as definitions, descriptions, illustrations, and examples from evidence and/or anecdotes. 	 Conducts clear analysis of the information gathered. Advances a judgment that is interpretive or analytic. Uses a range of strategies to elaborate and/or persuade such as definitions, descriptions, illustrations, and examples from evidence and/or anecdotes. 	 Includes a basic analysis with little or no attempt at synthesizing information into new knowledge. Fails to use a range of strategies to elaborate and/or persuade.

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Conventions	 Demonstrates exemplary control of grammar, paragraph structure, punctuation, sentence construction, spelling, and usage. Uses appropriate methods of transition and exhibits an awareness of the importance of precise word choice and imagery. 	 Demonstrates control of grammar, paragraph structure, punctuation, sentence construction, spelling, and usage. Uses appropriate methods of transitions including an introduction and a sense of closure. 	 Fails to demonstrate control of most aspects of grammar, paragraph structure, punctuation. Lacks a clear introduction and/or closure.
Organization and Structure of Information	 Includes a clear and insightful thesis statement. Uses a range of sophisticated strategies to reply to core question and /or thesis statement. Provides extensive facts and details such as: describing or analyzing the subject, comparing and contrasting, naming and explaining benefits and limitations, demonstrating claims or assertions and providing a scenario to illustrate. 	 Includes a clear thesis statement. Uses a range of appropriate strategies to answer the core question and /or address the thesis statement. Supplies pertinent facts and details to validate and/or support thesis. 	 Fails to include a clear thesis statement. Does not adequately address the core question and/or thesis statement. Fails to provide facts and details to support thesis.
Distribution of Information in Many Forms	• Expertly and creatively establishes a means of presenting information by employing a variety of methods, which may include use of technology and/or graphics while also highlighting the primary topic.	• Employs an appropriate mix of text, headings, bulleted lists, graphics, tables, charts, print and electronic media to represent the collected and analyzed information.	• Lacks any attempt at varying the over-all presentation and/or its appearance.

Writing Conventions Rubric

Guidelines for Using Rubric: Select the box that most describes student performance in each area. Alternatively you can "split the indicators" use the check-boxes before each indicator to evaluate each item individually. Schools must use the criteria in this rubric as the minimum criteria to assess graduation by proficiency exhibitions.

	Exceeds Standard	Meets Standard	Below Standard	Reference Standards
Writing Conventions:	The student consistently applies the rules and mechanics of writing:	The student applies the rules and mechanics of writing:	The student inconsistently applies the rules and mechanics of writing:	GSE W-10-9
Students apply	□ Standard English usage	□ Standard English usage	□ Standard English usage	
rules of	Capitalization	Capitalization	Capitalization	
grammar and	Punctuation	Punctuation	Punctuation	
mechanics.	□ Spelling	□ Spelling	□ Spelling	
	Makes infrequent errors which do not interfere with meaning	Makes occasional errors that do not interfere with meaning.	Frequent errors that interfere with meaning.	
Structures of	The student:	The student:	The student:	GSE W-12-1
Language: Students	Uses varied sentence length and structure to enhance meaning	Uses varied sentence length and structure	Does not vary sentence length and structure	
demonstrate command of	Uses sophisticated organizational structures within paragraphs	Uses organizational structures within paragraphs	Uses incorrect organizational structures	
the structure of	Consistently applies a format and	Applies a format and text structure		
sentences, paragraphs and text	text structure appropriate to purpose, audience and context	appropriate to purpose, audience and context	appropriate to purpose, audience and context.	

Reprinted from Graduation by Proficiency Exhibition Writing Conventions Draft 2004

Graduation by Proficiency Exhibition Oral Presentation Rubric

Exceeds Standard Meets Standard **Below Standard** Reference Standards Language Use and The student: The student: The student: OC10 2.1¹ Maintains eye contact ^{2,3} Effectively uses eye contact Uses eye contact ineffectively OC10 2.5² **Deliverv:** Speaks clearly, effectively and confidently using Speaks clearly and uses suitable volume Fails to speak clearly and audibly and uses ELA E3c³ The student and pace2,4 suitable volume and pace unsuitable pace A2a⁴ communicates ideas Fully engages the audience Takes steps to engage the audience² Does not engage the audience effectively. Dresses appropriately Dresses appropriately Dresses inappropriately Selects rich and varied words appropriate for Selects words appropriate for context Selects words inappropriate for context and audience; uses incorrect grammar. context and audience, and uses correct grammar and audience, and uses correct grammar^{1,4} The student: OC10-2.1¹ **Organization and** The student: The student: Introduces the topic clearly and creatively Introduces the topic clearly Does not clearly introduce the topic $OC10 2.2^{2}$ Preparation: Maintains a clear focus on the topic Maintains a focus on the topic² Does not establish or maintain a focus on the OC10 2.3³ The student exhibits Effectively includes smooth transitions to connect Includes transitions between key points³ topic ELA E3c⁴ logical organization. kev points Ends with a coherent conclusion based Uses ineffective transitions that rarely connect Ends with a logical, effective, and relevant on evidence⁴ key points conclusion Uses agenda, outline, notes or other Ends without a conclusion based on evidence memory aids to structure presentation ⁴ Does not make effective use of notes or other Uses agenda, outline, notes or other memory aids to execute a flowing presentation memory aids The student: OC12-2.3¹ The student: The student: Content: Clearly defines the topic or thesis and its Clearly defines the topic or thesis⁷ Does not clearly define the topic or thesis NCEE E2² The student explains the significance Does not support thesis with evidence W12-6.5³ process and findings of Supports the thesis and key findings with an Supports the thesis and key findings with Provides little or no evidence of valid research A1c⁴ the project and resulting analysis of relevant and accurate evidence evidence Shows little evidence of problem solving or A2a⁵ learning. Provides evidence of extensive and valid research Presents evidence of valid research with learning stretch A3a⁶ multiple sources^{3,6} with multiple and varied sources Shows little evidence of the combination of FC3⁷ Provides evidence of problem solving Provides evidence of complex problem solving ideas and learning stretch4,5 and learning stretch Combines and evaluates existing ideas to form Combines existing ideas to form new insights⁷ new insights The student: The student: The student: OC10 2.6¹ Media Use: The student Selects and uses audio/visual supports to Selects and uses well-crafted audio/visual Ineffectively uses audio/visual supports $A2c^2$ uses technology and/or communicate desired information.¹ supports to communicate desired information. other media to enhance Uses technology to enhance and deepen Uses audio/visual supports that detract from the the presentation. audience understanding. Uses technology to enhance audience presentation. understanding. The student: The student: The student: OC10-2.4¹ Questions and Answers: Demonstrates incomplete knowledge of the Demonstrates extensive knowledge of the topic by Demonstrates knowledge of the topic by The student A2a² responding confidently, precisely and responding to questions and feedback topic by responding to questions and feedback appropriately and accurately and appropriately^{1,2} appropriately to all audience questions and inaccurately and inappropriately. effectively responds to feedback questions.

Guidelines for Using Rubric: Select the box that most describes student performance in each area. Alternatively you can "split the indicators" use the checkboxes before each indicator to evaluate each item individually.

Pilot version of RI Exhibition Oral Presentation Rubric 2004-2005

http://www.ride.ri.gov/highschoolreform/dslat/

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