



# CAPSTONE PROJECT Student Guide



### **Acknowledgment**

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by sharing their successful Capstone Project protocols and forms.

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## Letter of Introduction

Dear NAF Academy Student,

A *Capstone Project* is an approved performance-based assessment that meets the requirement for NAFTrack Certification.

This project is a culminating academic assignment and assessment of all the skills you learned during your NAF academy experience. It focuses on solving real-world problems related to your academy's theme or career cluster.

Completing a capstone project is an exhilarating and rewarding experience that allows you to apply your college and career readiness skills and career expertise. Most importantly, the capstone project lets you participate in an in-depth exploration of an authentic career topic or issue based on your interest.

The *Capstone Project Student Guide* provides valuable information and resources to assist you through the project's various components. Select an exciting and challenging real-world issue in your career field and follow the guide with fidelity to accomplish a fulfilling learning experience.

Enjoy this capstone project experience, and best of luck!

Sincerely,

NAF Academy Teacher

## Capstone Project Overview

### Purpose

A *Capstone Project* is your opportunity to demonstrate your career knowledge and showcase your college and career readiness skills. The project focuses on addressing and solving real-world problems related to your career field and challenges you to be future-ready. This capstone project must integrate all your knowledge and concepts from your academy experiences and skills such as self-awareness, critical thinking, problem-solving, communication, collaboration, research, time management, organization, and presenting. NAFTrack Certification requires the successful completion of a performance-based assessment like this capstone project.

### Primary Components

A capstone project has four primary components, and the assessment of each component is separate.

Components	Descriptions
<b>Research Paper</b>	Research your choice of real-world issues directly related to your career field and select topics based on your interests.
	Secure mentor and academy teacher support to guide you through the research and project design.
	Check with your teacher for the designated style requirements - <a href="#">APA</a> or <a href="#">MLA</a> format.
	Plan research that requires no travel if you do not drive or have access to transportation.
	Consider research involving the purchase of expensive equipment only if you can solicit a company or mentor to sponsor your research.
<b>Product</b>	Create a product that is a tangible object - performance, design, demonstration, or documented-community service.
	Ensure your research paper has a direct relationship with your designated product.
	Select a topic and a product that are affordable and within your financial budget.
	Note - The final grade recognizes inventiveness and application of the product, not the cost to build it. The research or product has no required expenditure.
<b>Portfolio</b>	Create an ePortfolio - a digital collection of documents and artifacts that showcase your accomplishments as you work through the capstone project.
	Document your progress and communication with support team members.
	Develop portfolio sections that typically include: Project proposal, academic work samples, assessments and checkpoints, and personal information or experiences.
<b>Presentation</b>	Present a 10-15-minute public exhibition to peers, parents, school faculty, administration, and advisory board/community members.
	Showcase your career theme knowledge and expertise and highlight the career skills and competencies you achieved during the capstone experience.
<b>Phases of Assessment</b>	Note: Each component receives individual grades.
	Review component grades as a percentage of the final capstone project grade: Research Paper____% • Product____% • Portfolio____% • Presentation____%
	Examine the <i>Capstone Project Rubric</i> to review performance level expectations.
	Study the Presentation Evaluation Rubric (p. 34) to assess the required competencies.

**Requirement Checklist for Capstone Project Components**

Use the Capstone Project Requirements Checklist to monitor the completion of project requirements.

Components	√	Requirements for Capstone Project Components
<b>Research Paper</b> (p. 25)	<input type="checkbox"/>	Minimum of 5-7 typed, double-spaced pages
	<input type="checkbox"/>	Font: 12-point, Courier New or Times New Roman, and 1-inch margins
	<input type="checkbox"/>	APA or MLA style requirements as designated by the teacher
	<input type="checkbox"/>	Minimum of ____ references & sources (personal interviews recognized as a source)
	<input type="checkbox"/>	Reference page
	<input type="checkbox"/>	Substantiate claims and facts with references and quotations
	<input type="checkbox"/>	No Plagiarism: Paper assigned a zero if plagiarism detected
	<input type="checkbox"/>	Submitted on or before the deadline
	<input type="checkbox"/>	Final paper: 2 copies - 1 for submission & 1 for portfolio
<b>Product</b> (pp. 26-29)	<input type="checkbox"/>	Related to documented research
	<input type="checkbox"/>	Tangible artifact, performance, skill-based demonstration, or service-oriented
	<input type="checkbox"/>	A solution to current issue & beyond the current level of your expertise
	<input type="checkbox"/>	Created by student & <i>not</i> by mentor or parents/guardians
	<input type="checkbox"/>	Minimum of 10 contact hours with a mentor
	<input type="checkbox"/>	Contact log with mentor's signature for each session
<b>Portfolio</b> (pp. 30-31)	<input type="checkbox"/>	Cover page
	<input type="checkbox"/>	Table of contents
	<input type="checkbox"/>	Letter to the judges
	<input type="checkbox"/>	Resumes & certificates
	<input type="checkbox"/>	Research paper – final copy
	<input type="checkbox"/>	Presentation PowerPoint - product showcase
	<input type="checkbox"/>	Capstone Project Proposal
	<input type="checkbox"/>	Mentor Information Form
	<input type="checkbox"/>	Mentor/Mentee Contact Logs
	<input type="checkbox"/>	Mentor Final Verification of Product Form
	<input type="checkbox"/>	Mentor Evaluation Form
	<input type="checkbox"/>	Mentor Thank-you Letter
	<input type="checkbox"/>	Journal Reflections
	<input type="checkbox"/>	Product Self-evaluation
	<input type="checkbox"/>	Professionalism and Ethics Guidelines
	<input type="checkbox"/>	Teacher Approval: Research Topic and Product
<input type="checkbox"/>	Parent Approval: Research Topic, Product, and Requirements	
<input type="checkbox"/>	Miscellaneous: Pictures of teacher/mentor, awards, letters, plans, evaluations forms	
<b>Presentation</b> (pp. 32-38)	<input type="checkbox"/>	Length: 10-15 minutes
	<input type="checkbox"/>	Notecards with talking points
	<input type="checkbox"/>	Delivery practice with an audience at home and school
	<input type="checkbox"/>	Dress: business attire
	<input type="checkbox"/>	Visuals: poster, outline, photo collage, PowerPoint, or tangible product
	<input type="checkbox"/>	Portfolio presentation for judges' review
	<input type="checkbox"/>	Evaluation of delivery and content

## Capstone Project Calendar

Use the Capstone Project Calendar to ensure that you meet all deadlines for each phase of the project.

Dates	√	Strategic Actions & Required Documents/Forms
Aug/Sept	<input type="checkbox"/>	Review of <i>Capstone Project Student Guide</i>
Sept - April	<input type="checkbox"/>	Classwork - research paper, product design, & ePortfolio based on teacher schedule
Sept __	<input type="checkbox"/>	Review & study <i>Capstone Project Rubric</i> (pp. 18-19)
Oct __	<input type="checkbox"/>	Review & study <a href="#">How to Write a Research Paper: Student Guide</a> & <a href="#">Research PowerPoint</a>
Oct __	<input type="checkbox"/>	Teacher – Pre-approval of initial ideas for the research topic and product concept
Oct __	<input type="checkbox"/>	Begin drafting - <i>Capstone Project Proposal</i> (pp. 8-10)
Nov __	<input type="checkbox"/>	Review – <i>Teacher Approval &amp; Scoring Rubric: Research &amp; Product Approval</i> (p. 9)
Nov __	<input type="checkbox"/>	Progress Check - Capstone Project Proposal
Dec __	<input type="checkbox"/>	Submit – Capstone Project Proposal
Jan __	<input type="checkbox"/>	Teacher – Returns Approved/Rejected Capstone Project Proposal
Jan __	<input type="checkbox"/>	Submit - Signed <i>Parent Approval: Research Topic, Product, &amp; Requirements</i> (p. 10)
Jan __	<input type="checkbox"/>	Submit - Signed <i>Professionalism &amp; Ethics Guidelines</i> (pp. 11-12)
Jan __	<input type="checkbox"/>	Recruit & engage a mentor to support research and product design
Feb __	<input type="checkbox"/>	Submit - <i>Mentor Information</i> (p. 20) & Signed <i>Mentor Agreement Contract</i> (p. 22)
Feb __	<input type="checkbox"/>	Submit - Signed <i>Student-Mentee Contract</i> (p. 21)
Feb __	<input type="checkbox"/>	Teacher - Verification of mentor
Feb __	<input type="checkbox"/>	Submit - Thesis statement & evidence of research articles and notes
Mar __	<input type="checkbox"/>	Submit - Research paper outline
Mar __	<input type="checkbox"/>	Submit – First draft of research paper
Mar __	<input type="checkbox"/>	Submit - Second draft of research paper
Apr __	<input type="checkbox"/>	Submit - First draft of PowerPoint presentation for research & product design
Apr __	<input type="checkbox"/>	End of mentor/mentee contact
Apr __	<input type="checkbox"/>	Submit - <i>Mentor/Mentee Contact Log</i> (p. 23) with a minimum of 10-contact hours
Apr __	<input type="checkbox"/>	Teacher - Email verification of mentee/mentor contact hours
Apr __	<input type="checkbox"/>	Submit – Final research paper
Apr __	<input type="checkbox"/>	Submit - ePortfolio for initial review
May __	<input type="checkbox"/>	Submit - <i>Mentor: Thank You Letter</i> (p. 24)
May __	<input type="checkbox"/>	Submit - <i>Product Self-Reflection Questionnaire</i> (p. 27)
May __	<input type="checkbox"/>	Submit - <i>Mentor: Product Validation Form</i> (p. 29)
May __	<input type="checkbox"/>	Submit - Final draft of ePortfolio and product design
May __	<input type="checkbox"/>	Submit - PowerPoint presentation for final review
May __	<input type="checkbox"/>	Review & study <i>Presentation Evaluation Rubric</i> (pp. 35-37)
May __	<input type="checkbox"/>	Presentation & judging of Capstone Project
May __	<input type="checkbox"/>	Final Submissions: Research Paper, ePortfolio, PowerPoint Presentation, & Artifacts

## Capstone Project Proposal

A capstone project proposal is a 1-2-page, typed overview that describes your intentions to conduct research on a real-world topic related to your career field and your considerations for designing an associated product.

### Content of Proposal

Use the following questions and prompts to develop your proposal essay for the research topic and product. Attach the *Teacher Approval: Capstone Project Proposal* (p. 9) form to your proposal for an evaluation to approve your request. You must receive a formal acceptance and approval before beginning your formal research and product design. Use the following prompts to complete the proposal:

### Overview

1. Describe your academy career theme.
2. Explain your future career interests in this field. If none, what are your career goals for the future?
3. Do you have postsecondary plans to further your development in your future career field?

### Purpose & Rationale

4. Write an expository thesis statement related to your research topic, including a real-world issue from your career field with a possible solution.
5. Explain why this issue challenges you and why it is crucial to research this topic.
6. Have you conducted any work in this proposed area of research?

### Content

7. Describe the features of the product, performance, demonstration, or service that complements your research.
8. How is the product directly related to the topic of the research paper?
9. What is the anticipated cost of the product?

### Relevance & Creativity

10. What are the possible implications for using your research and product in your career field?
11. How do your product and solution benefit your designated industry or field?
12. How would you continue to extend the research and improve the design of the product?
13. Where or how do you find a mentor? Identify the type of expertise needed to assist you in the design of your product?

### Professionalism

14. Describe how you plan to conduct yourself throughout the project after reviewing the *Capstone Project Professionalism & Ethics Guidelines* (p. 11).
15. What types of assistance do you need to complete the project? Consider situations or issues with finances, time management for meeting deadlines, and difficulties with research, writing, and designing the product.

**Teacher Scoring Rubric & Approval: Capstone Project Proposal**

**Student Name:** \_\_\_\_\_ **Academy:** \_\_\_\_\_

**Research Topic:** \_\_\_\_\_

**Product:** \_\_\_\_\_

Capstone Project Proposal: Scoring Guide			
Domain	Points	√	Proposal Declarations
<b>Overview</b> 10 Points		<input type="checkbox"/>	Academy career theme
		<input type="checkbox"/>	Future career interest in the field. If none, career goals for the future
		<input type="checkbox"/>	Postsecondary plans for further development in a future career field
<b>Thesis Statement &amp; Rationale</b> 10 Points		<input type="checkbox"/>	Expository thesis statement related to the research topic
		<input type="checkbox"/>	Real-world issue
		<input type="checkbox"/>	Possible solution related to the career field
		<input type="checkbox"/>	Interest in issue
		<input type="checkbox"/>	Importance of researching the topic
<b>Content</b> 30 Points		<input type="checkbox"/>	Previous experience or knowledge in the field of study
		<input type="checkbox"/>	Features of product that complement the research
		<input type="checkbox"/>	The direct relationship of product to the research topic
<b>Relevance &amp; Creativity</b> 30 Points		<input type="checkbox"/>	The anticipated cost of designing the product
		<input type="checkbox"/>	Implications for using research and product in the career field
		<input type="checkbox"/>	Product and solution benefits to designated industry or field
		<input type="checkbox"/>	Extensions of the research and improvements of product design
<b>Professional Behavior</b> 10 Points		<input type="checkbox"/>	Finding a mentor and type of mentor expertise
		<input type="checkbox"/>	Review of Capstone Project Professionalism & Ethics Guidelines
		<input type="checkbox"/>	Professional conduct throughout the project
		<input type="checkbox"/>	Outreach for assistance with the project
<b>Writing Conventions</b> 10 Points		<input type="checkbox"/>	Situations or issues for consideration
		<input type="checkbox"/>	Statement of purpose/focus organization
		<input type="checkbox"/>	Development & elaboration of evidence
<b>Total Points</b>		<input type="checkbox"/>	Standard conventions plus the use of technical language and vocabulary

Student Statement
<p>I attest that the information in my Capstone Project Proposal is true and accurate.</p> <p>Student Signature: _____ Date: _____</p>

Teacher Approval: Capstone Project Proposal
<p>_____ Research Topic: <b>Approved</b>      _____ Research Topic: <b>Rejected</b></p> <p>_____ Product Proposal: <b>Approved</b>      _____ Product Proposal: <b>Rejected</b></p> <p>Reason for rejection and requirement to resubmit proposal:</p> <p>Teacher Signature: _____ Date: _____</p>

**Parent Approval: Research Topic, Product, & Requirements**

I am the parent/guardian of \_\_\_\_\_, in the Academy of \_\_\_\_\_. I am aware that the capstone project is a performance-based assessment that is a requirement for NAFTTrack Certification, and it makes up \_\_\_\_\_% of the academy course grade.

The final capstone project grade breakdown includes the following:

- Research Paper = \_\_\_\_\_%
- Product = \_\_\_\_\_%
- Portfolio = \_\_\_\_\_%
- Presentation = \_\_\_\_\_%

I acknowledge that any academic dishonesty, such as falsification or plagiarism results in a failing final grade (F) on the research paper or other project components. Also, my student cannot continue with the completion of the additional parts of the project.

**Statements of Approval:**

1. **Research Paper:** My student selected the following research topic:

\_\_\_\_\_

2. **Product:** My student decided on the creation of the following:

\_\_\_\_\_

3. **Project Cost:** My student anticipates that the approximate cost of completing this capstone project is \$\_\_\_\_\_, and I approve of this expense.

I acknowledge that my student had full autonomy in choosing the research topic and selecting a related product to meet the capstone project's requirements. Also, the topic and product are outside of my student's recent experiences and level of expertise.

I am aware that I take full responsibility for the capstone project's costs and any consequences resulting from this topic and product choice.

**Capstone Project Parent Approval & Acknowledgement: Research Topic, Product, & Requirements**

My student and I have reviewed and fully acknowledge all the Capstone Project requirements.

\_\_\_\_\_  
Parent/Guardian Signature Date \_\_\_\_\_

Cell/Home #: \_\_\_\_\_ Work #: \_\_\_\_\_

Email Address: \_\_\_\_\_ (please print clearly)

\_\_\_\_\_  
Student Signature Date \_\_\_\_\_

## Professionalism & Ethics Guidelines

### Falsification, Plagiarism, & Meeting Timelines

**Student Name:** \_\_\_\_\_ **Academy:** \_\_\_\_\_

Your NAF academy experience prepares you to be future-ready for college and career. A vital part of this preparation is your professionalism and ethical behavior, such as academic honesty. Therefore, there are high expectations for you to represent yourself and your family and academy with integrity and demonstrate the highest moral character levels during the completion of the capstone project.

One of NAF's college and career readiness competencies is professionalism and ethics that involve showcasing the following skills and behaviors:

#### Professionalism

Professionalism requires that you:

- Demonstrate acceptable appearance and dress for presentations and visits to job sites.
- Display a positive demeanor and be respectful in interactions with mentors, teachers, and peers.
- Be accountable for time management, appropriate communication, and project deadlines.
- Be reliable and competent.

#### Ethics

Ethical behavior requires that you:

- Demonstrate integrity by being honest, fair, equitable, and dignified.
- Exhibit an appreciation of ethical and legal matters related to the retrieval and use of communications media from information technologies.
- Be accountable for the following behaviors and actions:
  - Netiquette
    - Practicing acceptable methods of communicating on the Internet through emails and social media
  - Plagiarism
    - Copying directly from a source without quoting or providing a citation to recognize the source of information and acknowledge the author/s
    - Using research information or materials without proper documentation on the citation pages
    - Representing someone's work or product as your design
    - Allowing a peer to present your work as their work
  - Falsification and Misrepresentation
    - Forging the signatures of parent/guardian, mentor, or teacher on documents
    - Paying or allowing someone to write the paper or create the product
    - Engaging a family member as the subject for interviews or as a mentor

## Meeting Timelines

The completion of a capstone project develops an essential college and career readiness skill of *time management*. The *Capstone Project Calendar* (p. 7) provides a timeline for submitting required documents and completing critical strategic actions. The calendar of due dates chunks the capstone project into smaller segments to facilitate time management. You must adhere to all due dates to avoid consequences and penalties for late assignments.

You *must* complete each component as assigned and meet the designated deadlines listed in the Capstone Project Calendar. *Note:* Finish each assignment on time before you can move on to the next required component.

Consequences for failure to meet the capstone project deadlines:

- A penalty of \_\_\_\_ points (or \_\_\_\_%) for each day late up to \_\_\_\_ days.
- After the \_\_\_\_ day, the final grade on the designated component is an F.

*Note:* Submit all component assignments and materials even if the work is more than three days late to continue with the other project components.

For a late assignment, you must submit a written appeal if you have a genuine reason that deserves consideration for dismissing the designated consequences.

***Important Reminder:***  
*Failure to complete the research paper and any demonstration of unethical behavior, such as misrepresentation or plagiarism, means that you are not eligible to continue with the other compents of the capstone project. The capstone project grade is an F.*

<b>Capstone Project Acknowledgement of the Professionalism &amp; Ethics Guidelines</b>	
<b><i>Signatures below confirm receipt of the Professionalism &amp; Ethics Guidelines</i></b>	
I reviewed and fully acknowledge the <i>Professionalism &amp; Ethics Guidelines</i> . I accept all the related consequences for failure to meet the Capstone Project requirements and deadlines, and I promise to perform with the highest standards of academic honest and integrity.	
Student Signature _____	Date: _____
I reviewed and fully understand my student’s responsibilities during the completion of the Capstone Project. I acknowledge the related consequences for failure to meet the Capstone Project requirements and deadlines.	
Parent/Guardian Signature: _____	Date: _____

## Capstone Project Rubric

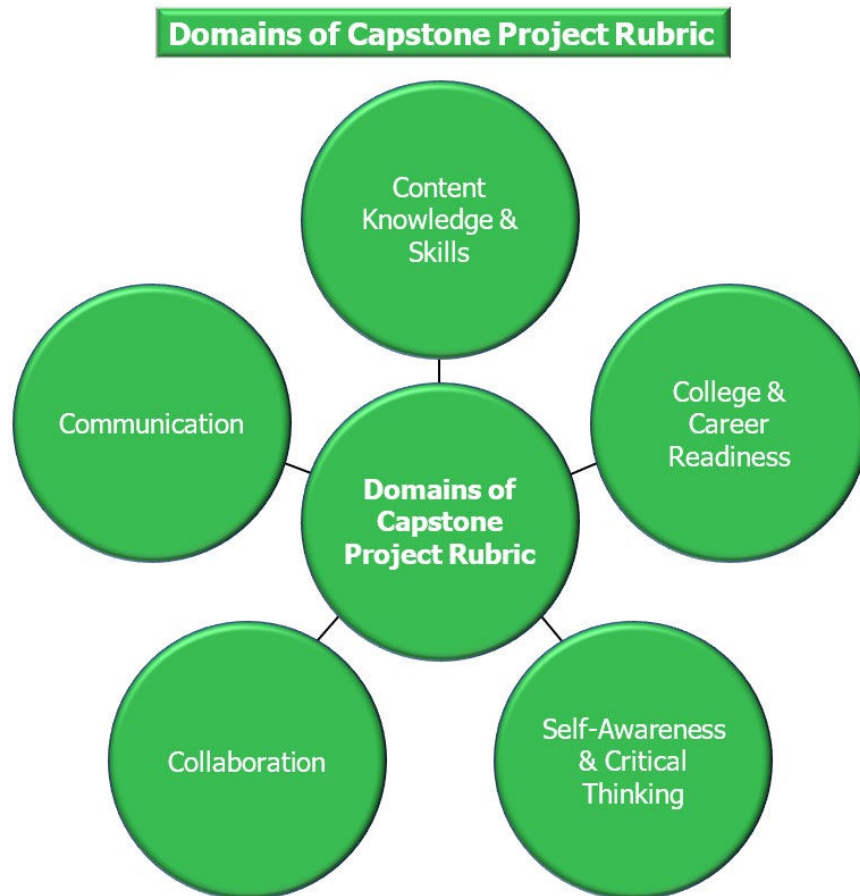
The *Capstone Project Rubric* (pp. 18-19) assesses the skills and content learned in the NAFTrack Certified Program of Study. The capstone project is a performance-based assessment that serves to evaluate your achievement of the necessary college and career readiness skills required for a successful transition to postsecondary education and future careers. You work under NAF academy teachers' guidance and collaborate with community members, business representatives, and other school-based personnel.

Teachers use the *Capstone Project Rubric* to assess your achievement of the following domains: Content Knowledge and Skills, Self-Awareness and Critical Thinking, Communication, Collaboration, and College and Career Readiness.

### Rubric Domains

Evidence of your performance determines the extent to which you participated in the development and completion of the capstone project. Turn in all required assignments completed throughout the capstone project, and you must:

- Submit work samples from the planning, implementation, and production stages as well as the final product.
- Complete the project reflections and explain your contributions to the overall product.



## Description of Rubric Domains

### Content Knowledge & Skills

Evidence of understanding the ideas, concepts, and skills covered in targeted learning objectives:

- Apply concepts in a logical and meaningful context to grasp the career-themed content knowledge and related skills.
- Demonstrate critical thinking skills by reimagining and creating original ideas to solve real-world issues related to the career theme.
- Locate, comprehend, and critically evaluate information and data from a variety of sources.
- Submit reflections to identify the project's primary concepts and substantiate the proper application of the ideas.

### Self-Awareness & Critical Thinking

Evidence of work samples or reflections that demonstrate how to:

- Consider all possible solutions to a problem through online and field research.
- Make decisions after detailed examination and evaluation of hard evidence.
- Analyze how different parts of a project interact to influence the resulting product.
- Ask appropriate questions, and be willing to take new steps.
- Work independently and be resourceful, flexible, and adaptable.
- Be aware of abilities and performance and identify strengths and limitations of the project in the reflections.
- Provide recommendations to improve project quality.

### Communication

Evidence of the ability to communicate with the workgroup and support team:

- Use persuasive verbal, non-verbal, and written communication.
- Exhibit open-minded and active listening.
- Demonstrate the effective use of social media and digital technologies for communication.

### Collaboration

Evidence of capacity to collaborate:

- Work successfully and respectfully with diverse individuals.
- Share accountability for group work and recognize the contributions of team members.
- Capable of compromise and demonstrate flexibility while working with team members.
- Use social networks and networking tools to support collaboration.

### College & Career Readiness

Evidence of college and career readiness:

- Be aware of *NAF's College and Career Readiness (CCR) Skills: Appendix A (p. 40-41)*
- Use CCR Skills as a self-evaluation tool to complete a holistic determination of readiness.
- Reflect on the college and career readiness continuum to measure your overall advancement throughout the academy and the capstone project experiences.

## Scoring Guidelines

The *Capstone Project Rubric* (pp. 18-19) is the primary tool for scoring the capstone project's total experience, including the final research paper, product, reflections, and public presentations. The following considerations apply during the scoring of the capstone project.

Focus Areas	Descriptions
Writing Conventions	Research paper includes purpose and focus, organization, development of details, supporting evidence, and technical language and vocabulary.
Work Quality	Project work samples must reflect the standard of work that students would perform in professional settings.
Workgroups	Groups are permissible during the completion of the capstone project. Students working on the same project may submit similar work.
Individual Score	Student work awarded an independent score versus a group score. Individual submissions highlight each student's skills, abilities, responsibilities, plus independent reflections.
Presentation	Students in workgroups must all participate in a public exhibition.

### Scoring a Capstone Project

The *Capstone Project Rubric* (pp. 18-19) guides the scoring of the project. It is paramount that you review the *Capstone Project Rubric* at the beginning phase of project planning. Throughout the other phases of the project, you must use the rubric as a self-reflection tool to assess and identify areas of strength and opportunities for improvement.

The final assessment focuses on scoring the five domains' performance levels: Content Knowledge and Skills, Self-Awareness and Critical Thinking, Communication, Collaboration, and College and Career Readiness. The collaborative work, the final product, and the reflections are all considered when scoring your capstone project.

Resources & Tips: Scoring of a Capstone Project	
Resources	Strategic Actions Tips
Capstone Project Overview (pp. 5-7)	Review the guidelines to become familiar with all components of the project.
Final Evaluation	Establish the overall quality of your work by evaluating all four components of the project: research paper, product, a portfolio with reflections, and presentation.
Performance Levels (p. 16)	Review the descriptions of the performance expectations for each performance level.
Scored Capstone Project (p. 17)	Examine the sample of a scored capstone project.
Scoring Sheet	Use the scoring sheet to self-assess and estimate your overall score.
(pp. 40-41)	Survey the competencies to become familiar with the behaviors and skills required for college and career readiness.
Capstone Project Rubric (pp. 18-19)	Use the rubric for self-reflection and check off the competencies and skills achieved to establish performance levels.
Inadequate Performance	Assigned zero (0) points when the project submission is incomplete.

## Performance Levels: Descriptions

A five-point scale from 0-4 establishes your performance level for each domain. Performance levels correlate with the following descriptions of expected student behaviors.

Performance Levels	Description of Student Behaviors
<b>4</b>  <b>Exceptional Performance</b>	Displays an advanced level of understanding of the ideas and concepts learned throughout the program of study aligned to the career cluster.
	Indicates an excellent ability to apply the concepts and ideas learned to solve a real-world problem related to the career cluster.
	Displays an exceptional capacity to reflect on the quality of the capstone project.
	Exhibits leadership skills and takes total responsibility for learning.
	Provides active and consistent contributions throughout all stages of the project.
	Shows minimal or no content, grammar, or presentation errors in the project work samples or reflections.
	Exceeds all expectations for the completion of the project.
<b>3</b>  <b>Satisfactory Performance</b>	Shows an overall understanding of the concepts and ideas learned throughout the program of study aligned to the career cluster.
	Indicates an acceptable ability to apply the concepts and ideas learned to solve a real-world problem related to the career cluster.
	Displays an overall capacity to reflect on the quality of the capstone project. <ul style="list-style-type: none"> <li>• Assumes overall responsibility for own learning.</li> <li>• Provides ongoing contributions throughout all stages of the project.</li> <li>• Shows a few grammatical or presentation errors in project work or reflections.</li> <li>• Meets most expectations for the completion of the project.</li> </ul>
<b>2</b>  <b>Fair Performance</b>	Shows a limited understanding of the concepts and ideas learned throughout the program of study aligned to the career cluster.
	Demonstrates a limited ability to apply the concepts and ideas learned to solve a real-world problem related to the career cluster.
	Displays difficulty in identifying the strengths and limitations of the capstone project.
	Takes limited responsibility for own learning and must be nudged to contribute during all stages of the project.
	Shows significant content, grammar, or presentation errors in project work or reflections.
	Does not meet the expectations for the completion of the project.
<b>1</b>  <b>Marginal Performance</b>	Shows a minimal understanding of the concepts and ideas learned throughout the program of study aligned to the career cluster.
	Demonstrates minimal competency for applying the concepts and ideas learned to solve a real-world problem related to the career cluster.
	Shows no ability to identify the strengths and limitations of the capstone project.
	Shows a disregard for responsibility for own learning even after discussions of the issues.
	Demonstrates minimal or no contribution throughout all stages of the project.
	Displays significant content, grammatical, or presentation errors in project work or reflections.
	Is significantly below the expectations for the completion of the project.
<b>0</b>  <b>Inadequate Performance</b>	Demonstrates the lack of submission of sufficient numbers of required work samples throughout the planning, implementation, production stages, and the final product.
	Does not provide enough documentation or reflections to evaluate contributions to the group throughout all the project stages.
	Offers insufficient evidence or documents for the scoring of a capstone project.

## Scored Capstone Project Sample

Example: Scored Capstone Project		
Course: Principles of Hospitality and Tourism		
<b>Student Name:</b> _____		
<b>Overall Score:</b> <i>Exceptional Performance</i>		
Note: The student does not need to receive a score of 4 in all domains.		
Exemplar: 4 Points		
<b>Capstone Project:</b> Business proposal for a high school vacation package	Components of Business Plan	
	Unique meal plan and vacation package	
	Reflections on the capstone project experience and product	
	Market analysis based on interviews with peers	
	Presentation to peers, faculty, and local business owners	
Domains of Rubric	Performance Levels	Description of Student's Performance
<b>Content Knowledge</b>	4	Demonstrates a depth of understanding of the concepts and skills learned in the course.
		Displays creativity and originality in addressing tourism's environmental effects, current food and beverage business trends, and travelers' entertainment choices.
<b>Application of Knowledge &amp; Skills</b>	3	Demonstrates an overall ability to apply the concepts and skills in a logical and meaningful context.
		Submits a business proposal that contains all the necessary components.
		Submits a generic meal plan that does not include an itemized budget.
		Provides a final vacation package with a promotional brochure and itinerary containing minor grammatical and punctuation errors.
<b>Self-Awareness &amp; Critical Thinking</b>	4	Submits reflections with evidence of thorough research and analysis of options.
		Shows awareness of the strengths and limitations of the project.
		Provides suggestions for improvement in group performance and the quality of the project.
<b>Collaboration</b>	4	Shares accountability for group work and recognizes the contributions of team members.
		Uses social networks and networking to support group collaboration.
<b>Communication</b>	4	Uses persuasive verbal, non-verbal, and written communication.
		Exhibits active listening with an open mind.
<b>College &amp; Career Readiness</b>	3	Demonstrates competency on most of NAF's College and Career Readiness Skills.
<i>Overall Score</i>	<i>Exceptional Performance</i>	<i>The overall quality of the submitted work and presentation exceeds the expectations for completing the capstone project.</i>

## Capstone Project Rubric Tool

Capstone Project Rubric					
Domains	Performance Levels				
	4	3	2	1	0
<b>Content Knowledge &amp; Skills</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Demonstrates an exceptional understanding of the main ideas, concepts, and skills covered in all targeted learning objectives with only minor errors in the breadth, depth, and interpretation accuracy.</li> <li><input type="checkbox"/> Demonstrates an excellent ability to apply the knowledge and skills covered in all targeted learning objectives with only minor errors in applying knowledge and skills.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Demonstrates an overall understanding of the main ideas, concepts, and skills covered in the targeted learning objectives with some gaps in the breadth, depth, and interpretation accuracy.</li> <li><input type="checkbox"/> Demonstrates an overall ability to apply the knowledge and skills covered in the targeted learning objectives, with some skills and knowledge lacking and used in incomplete ways.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Demonstrates a limited understanding of main ideas, concepts, and skills covered in the targeted learning objectives with substantial gaps in the breadth, depth, and interpretation accuracy.</li> <li><input type="checkbox"/> Demonstrates a limited ability to apply the knowledge and skills covered in the targeted learning objectives, with most of the skills and knowledge lacking and used in incomplete or inappropriate ways.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Demonstrates a minimal understanding of main ideas, concepts, and skills covered in the targeted learning objectives, displaying an invalid or incomplete representation of facts.</li> <li><input type="checkbox"/> Demonstrates minimal application of knowledge and skills covered in the targeted learning objectives, lacked competence regarding most or all skills and applied knowledge and used them in incomplete or inappropriate ways.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Submits an insufficient number of required documents to evaluate the understanding of main ideas, concepts, and skills covered in the targeted learning objectives.</li> <li><input type="checkbox"/> Submits an insufficient number of required documents to evaluate the ability to apply the knowledge and skills covered in the targeted learning objectives.</li> </ul>
<b>Self-Awareness &amp; Critical Thinking</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Demonstrates an exceptional ability to reflect on self as a learner and the project's quality concerning targeted learning objectives by providing explicit and accurate statements of the strengths and limitations of work samples and the final project.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Demonstrates an overall ability to reflect on self as a learner and the project's quality concerning targeted learning objectives by providing a global summary of work samples' strengths and limitations and the final product.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Demonstrates a limited ability to reflect on self as a learner and the project's quality concerning targeted learning objectives by providing incomplete statements regarding the strengths and limitations of project assignments and the final product.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Demonstrates a slight or no ability to reflect on self as a learner and the project's quality concerning targeted learning objectives by providing inaccurate or no examples of the strengths and limitations of work samples and the final product.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Submits an insufficient number of required reflection sheets to evaluate the project's quality concerning targeted learning objectives.</li> </ul>

Capstone Project Rubric					
Domains	Performance Levels				
	4	3	2	1	0
<b>Communication</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Uses persuasive verbal, non-verbal, and written communication.</li> <li><input type="checkbox"/> Exhibits open-minded and active listening while interacting with a team of peers and support colleagues.</li> <li><input type="checkbox"/> Demonstrates the effective and regular use of social media, digital technologies, and communication tools.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Articulates and presents ideas and information effectively both in verbal and written forms.</li> <li><input type="checkbox"/> Listens to overall concepts and observes non-verbal cues during team interactions.</li> <li><input type="checkbox"/> Demonstrates appropriate use of social media, digital technologies, and communication tools.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Shows a limited grasp of the use of verbal and written communication.</li> <li><input type="checkbox"/> Listens to general instructions and may interact with the team.</li> <li><input type="checkbox"/> Demonstrates some use of social media, digital technologies, and communication tools.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Demonstrates minimal or no ability to communicate verbally or in a written format.</li> <li><input type="checkbox"/> Displays a short attention span and limited listening skills while working with a team.</li> <li><input type="checkbox"/> Demonstrates a minimal use of social media, digital technologies, and communication tools.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Demonstrates no ability to communicate in a written or verbal fashion.</li> <li><input type="checkbox"/> Does not listen or interact with the team.</li> <li><input type="checkbox"/> Demonstrates no use of social media, digital technologies, and communication tools.</li> </ul>
<b>Collaboration</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Works successfully and respectfully with diverse individuals while sharing accountability for group work and recognizes team members' contributions.</li> <li><input type="checkbox"/> Uses various social networks and networking tools to engage the group in activities and ensure meeting timelines throughout the project.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Builds effective collaborative working relationships with the group while contributing to team efforts.</li> <li><input type="checkbox"/> Uses some social networks and networking tools to engage the group and support teamwork in various project components.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Demonstrates some collaboration with a team with limited contributions to the group work on the project.</li> <li><input type="checkbox"/> Uses social networks and networking tools to support collaboration in only some components of the project.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Demonstrates minimal or no contributions to the group work on the project.</li> <li><input type="checkbox"/> Uses social networks and networking tools only in responding to group outreach.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Demonstrates withdrawal from the group and refuses to contribute to the team efforts.</li> <li><input type="checkbox"/> Does not use social networks and networking tools during the project.</li> </ul>
<b>College &amp; Career Readiness</b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Demonstrates a high level of competency on all of NAF's College and Career Readiness Skills.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Demonstrates competency on most of NAF's College and Career Readiness Skills.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Demonstrates some competency on NAF's College and Career Readiness Skills.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Shows a limited level of competency on NAF's College and Career Readiness Skills.</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Reveals a lack of competency on most of NAF's College and Career Readiness Skills.</li> </ul>
<b>Overall Rating</b>	<input type="checkbox"/> <b>Exceptional Performance</b>	<input type="checkbox"/> <b>Satisfactory Performance</b>	<input type="checkbox"/> <b>Fair Performance</b>	<input type="checkbox"/> <b>Marginal Performance</b>	<input type="checkbox"/> <b>Inadequate Performance</b>

**Career-Themed Mentor**

The capstone project requires that you secure a mentor, an expert, or a professional in your career field to guide you through your capstone project experience. Your mentor must be someone outside of your family and school and is an adult over the age of 18-years old.

**Locating a Mentor**

The responsibility of locating a mentor may seem like such a daunting task but consider contacting the following sources to begin your search for a suitable mentor:

Source Categories	Sources with Community Contacts
<b>Family &amp; Friends</b>	Parents/friends/associates of peers
	Employers/co-workers/friends/associates of parents or family members
<b>Professional Organizations</b>	Professional organizations: ex. Financial, Engineering, & Health Associations
	Service organizations: Rotary & Lions Clubs
	Human resources (HR) departments of major companies of your career field
	Chambers of Commerce
<b>Educational Institutions</b>	Local colleges & universities: HR, professors, & graduate scholars
	School district trades/specialized departments, personnel from other schools
<b>Religious Organizations</b>	Pastor/priest/rabbi/members of any religious group
	Appeal through the organization's newsletters or weekly services
<b>Online Research &amp; Newspaper Advertisements</b>	Locate credible/legitimate companies/businesses in the career field

Your family, friends, or acquaintances can initiate contact with their recommended business or mentor. For your initial outreach to potential mentors, use the information in this student guide for preparing capstone project talking points, and include the mentor requirements, especially time commitments. Consider developing the following:

- Elevator speech for introductory phone calls or meetings
- Introductory email or letter to solicit assistance from professionals in your career field

Capstone Project: Required Mentor Information	
Student Name:	_____ Academy: _____
Mentor Name:	_____
Business Name:	_____
Title/Position:	_____
Expertise:	_____
Business Address:	_____
Contact Information:	Office: _____
	Cell: _____
	Email: _____
Best method/time(s) for contact:	_____

**Student-Mentee Contract**

**Student Name:** \_\_\_\_\_ **Academy:** \_\_\_\_\_

A capstone project requires the support of a mentor who is a professional in your career field with the expertise to guide you through the capstone project. Contact with professionals outside of the school provides opportunities for new perspectives regarding industry standards and practices, current innovations, and knowledge about real-world issues in the career field. You can practice demonstrating *NAF's College & Career Readiness Competencies* (pp. 40-41) with your mentor.

Student-Mentee Expectations & Behaviors	
Competencies	Expectations & Behaviors
<b>Collaboration &amp; Teamwork</b>	Work successfully and respectfully with diverse individuals.
	Share accountability for group work and recognize the contributions of team members
	Be capable of compromise and demonstrate flexibility while working with supervisors, clients, and team members
	Be attentive during mentoring sessions and display professionalism and respectful behavior when receiving your mentor’s feedback and comments.
	Use social networks and networking tools to support collaboration with the mentor.
<b>Communication &amp; Participation</b>	Participate in group discussions by making eye contact in live sessions and keeping the camera on for virtual sessions.
	Exhibit open-minded and active listening.
	Use persuasive verbal, non-verbal, and written communication.
	Demonstrate the effective use of social media, communication tools, and digital technologies for communication with teachers, mentors, and classmates.
<b>Initiative &amp; Self-Direction</b>	Prepare for mentor sessions by reviewing and becoming familiar with session discussion topics and completing all related assignments.
	Ask appropriate questions and willing to adjust and change direction.
	Work independently, be resourceful, flexible, and adapt to a variable mentor schedule.
	Be aware of one’s abilities and performance.
<b>Professionalism &amp; Ethics</b>	Be accountable for time management, appropriate communication, meeting schedules, and project deadlines.
	Show integrity by being honest, fair, equitable, and dignified.
	Seek a mentor’s guidance regarding professional values in the career field.

Student Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Parent Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**Mentor Agreement Contract**

**Mentor Expectations:**

- Assist mentees with professional and educational development.
- Provide advice and guidance throughout the various phases of the capstone project experience.
- Stay engaged with the mentee from January – May with a minimum of 10-contact hours.
- Complete:
  - Mentor Information Form
  - Mentor Agreement Contract
  - Final Capstone Product Validation Form
- Sign:
  - Mentor/Mentee Contact Log

**Mentor Service Agreement:**

I agree to serve as a Capstone Project Mentor to \_\_\_\_\_.

I will provide guidance and assist with his/her capstone project research, product design, and final capstone project presentation from January - May (\_\_\_year).

\_\_\_\_\_  
Mentor Signature

\_\_\_\_\_  
Date

**Parent Approval of Mentor**

**Parent Acknowledgement:**

I acknowledge that \_\_\_\_\_ is serving as a Capstone Project Mentor for my daughter/son: \_\_\_\_\_.

I grant my permission for him/her to meet virtually or in person for a minimum of 10 hours. I am aware that these meetings will be scheduled at mutually agreeable times and take place virtually or at \_\_\_\_\_ (location).

\_\_\_\_\_  
Parent/Guardian Signature

\_\_\_\_\_  
Date

**Mentor/Mentee Contact Log**

**Student Name:** \_\_\_\_\_ **Academy Teacher:** \_\_\_\_\_

**Project:** \_\_\_\_\_ **Mentor Name:** \_\_\_\_\_

Meeting Dates	Duration of Contact <small>Ex. 1:00 – 1:30 pm</small>	Topic/s of Discussion & Itemize Details	Mentor/Mentee Comments	Mentor Initials
<b>Total Contact Hours</b>				

**Mentor Name:** \_\_\_\_\_ **Signature:** \_\_\_\_\_

**Phone #:** \_\_\_\_\_ **Email:** \_\_\_\_\_

**Student Signature:** \_\_\_\_\_

## Mentor: Thank You Letter

Your mentor spends at least 10 hours helping you through your capstone product development; so, you must express your appreciation for the mentorship. A personalized letter is the appropriate professional expression of your gratitude. Include a copy of the thank-you letter in your portfolio. Use the Thank You Letter Template to complete your letter and review the article: [General Thank You Letter Samples and Writing Tips](#).

## Thank You Letter Template

**Jane Capstone**  
**345 Project Street, Future City, FL. 33216**  
**Email: [jcapstone@yahoo.com](mailto:jcapstone@yahoo.com) · Cell: 333.888.2222**

Mr. Support Mentor,  
 Name of Company  
 Street Address  
 City, State, Zip Code

Dear Mr. Mentor,

Paragraph	Contents
Paragraph 1 Introduction	<ul style="list-style-type: none"> <li>• Describe your appreciation for the specific actions/services/help that you received from your mentor.</li> <li>• Express your thanks directly in everyday language.</li> <li>• Begin with:                             <ul style="list-style-type: none"> <li>○ I want to express my appreciation for . . .</li> <li>○ I am thankful for . . .</li> </ul> </li> </ul>
Paragraph 2 Body	<ul style="list-style-type: none"> <li>• Be honest and insightful in your reflections/comments.</li> <li>• Include a couple of sentences to describe the quality and type of help, such as:                             <ul style="list-style-type: none"> <li>○ You were caring/patient/helpful when . . .</li> <li>○ Your skill/expertise made . . . mention project issues or advances</li> <li>○ You were always available to . . . with research/project . . .</li> <li>○ You offered explanations/critiques (describe) to . . .</li> </ul> </li> </ul>
Paragraph 3 Conclusion	<ul style="list-style-type: none"> <li>• Express your final thoughts of gratitude by explaining how the mentor changed/made a difference in your capstone project progress, academic performance, research, and design process.</li> <li>• Mention your improvement in industry skills/language or workplace competencies (Review <i>NAF's College and Career Readiness Skills</i> - pp. 40-41)</li> <li>• Request for the continuation of the mentor/mentee relationship if desired.</li> </ul>
Paragraph 4 Salutation	<ul style="list-style-type: none"> <li>• Close with a word or phrase – <i>Sincerely</i> or <i>With gratitude</i>.</li> <li>• Type your name and place your signature above your name.</li> </ul>

Sincerely,

*Jane Capstone*

Jane Capstone

## Research Paper Guidelines

A research paper requires a thesis statement, an outline, research notes, a rough draft, and a final draft. Review the recommendations and resources for writing a persuasive research paper.

**Resources:** Use [How to Write a Research Paper: Student Guide](#) and [Research PowerPoint](#) to guide you through the process of writing a research paper.

Focus	Recommendations
Real-world Issues	Research your choice of real-world issues related to the career field or cluster.
Interests	Select the research topic/concept based on your interests.
	Choose a subject in which you have little or no expertise so that the research is beyond your current knowledge level.
Approval	Receive approval from your teacher for the research topic/concept.
Mentor	Secure a mentor who is preferably an expert or a professional in your career field.
Collaboration	Collaborate with your mentor throughout the research and development of the paper.
Feedback	Solicit ongoing critique and evaluations from your teacher and mentor.
Deadlines	Meet all deadlines for the research paper.

### Research Topic Selection

Selecting a research topic is a process. As you begin choosing a research topic, use good judgment so that your research problem receives approval from parents/guardians, teachers, and mentors. Your public exhibition or presentation must also be appropriate for your peers, school faculty, a community review board, and presentation judges. Select a topic that is a challenging, real-world issue that can add value to your field of study, build your professional profile, and one that you are proud to share with others. Review the recommendations to guide you through the selection process.

Focus	Recommendations
Topic	Select a research topic of high interest in a field that you are not an expert.
	Pick topics/concepts that are both creative and intellectually challenging with potentially real-world applications and further development opportunities.
	Choose a topic that has available references and sources of research information.
Active Research	Generates many other new ideas for investigation and consideration.
Narrow Research Field	Begin to refine and focus on the topic after reviewing several references to manage your research scope.
Surveys/Interviews	Conduct primary research to show originality and intellectual maturity.
Data Collection	Reflect on topics that allow the collection of <i>qualitative</i> data through personal interviews and surveys. Record <i>quantitative</i> data through scientific experiments or collection of data.
Product	Consider a field of study that promotes creating a product, developing a skill, producing a performance, or offering a service.
<i>Alternative Selection Process</i>	Start with the end in mind by first reflecting on your product and then find supporting research to develop the designated product.
Support	Involve your mentor and academy teacher in your choice of research topics.

## Capstone Product

For the capstone product, you apply the research concepts to solve a practical, real-world problem by creating a product that could advance effective practices in your career field.

Recommended product design steps are:

- Create a product that is a tangible artifact such as a performance, design, demonstration, or documented-community service.
- Ensure a direct relationship between the product and your research concepts and thesis statement.
- Choose a product that fits your financial budget - *there is no required expenditure*.
- Collaborate for a minimum of 10-contact hours with a mentor.
- Log contact hours for each mentee/mentor session.

Mentee/Mentor collaboration includes:

- Begin working with mentors once the teacher approves the product to allow maximum time to acquire the required 10-contact hours.
- Analyze the research topic and thesis statement for practicability and industry need.
- Tackle the design process by completing diligent research, ask appropriate questions, and accept and implement critiques/corrections and suggestions/recommendations for product improvements.
- Remind your mentor of the *Mentor: Product Evaluation Form* (p. 29) and due dates.
- Ensure receipt of the *Mentor: Product Evaluation Form* (p. 29) required for the final project grade via email to your teacher by the stipulated deadline.

Research Topic Requirement: Both the research and the product must be a learning stretch for you by providing new experiences outside your current expertise level. Review the sample research topics with related products:

Research Paper Topics	Possible Products
Health Science – COVID-19	Design school protocols for traffic patterns and lunch/classroom schedules or furniture arrangements to prevent the spread of COVID.
Web Design for Recruiting NAF academy students	Design a website for your high school or teacher.
Information Technology – Internet Safety	Design an app/game to teach elementary students how to be safe on the Internet.

Components	√	Requirements for Product Component
<b>Product</b>	<input type="checkbox"/>	Related to documented research
	<input type="checkbox"/>	Tangible artifact, performance, skill-based demonstration, or service-oriented
	<input type="checkbox"/>	A solution to current issue & beyond the current level of your expertise
	<input type="checkbox"/>	Created by student & <i>not</i> by mentor or parents/guardians
	<input type="checkbox"/>	Minimum of 10 contact hours with a mentor
	<input type="checkbox"/>	Complete contact log with mentor's signature for each session

## Product Self-Reflection Questionnaire

**Student Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Teacher:** \_\_\_\_\_ **Research Topic:** \_\_\_\_\_

Use the following prompts to complete a product evaluation. Type your assessment and submit with your final product.

1. Describe the product in detail.
  
  
  
  
  
  
  
  
  
  
2. What was the time required to design and complete the product? \_\_\_\_\_
3. What was the start date? \_\_\_\_\_ What was the completion date? \_\_\_\_\_
4. Describe the types of materials used to build the product.
  
  
  
  
  
  
  
  
  
  
5. What was the cost to build your product? \_\_\_\_\_
6. List the names of the people who provided help on the product and identify the assistance provided.
  - a)
  
  
  
  
  
  
  
  
  
  
  - b)
  
  
  
  
  
  
  
  
  
  
  - c)
  
  
  
  
  
  
  
  
  
  
7. Describe three significant insights or moments that you experienced while creating the product.
  - a)
  
  
  
  
  
  
  
  
  
  
  - b)
  
  
  
  
  
  
  
  
  
  
  - c)

8. Identify significant issues during the project design and build and explain the solutions.
  
9. Did your product meet your original expectations? If not, why?
  
10. Describe product enhancements that could improve the quality of your product?
  
11. What are the essential or new skills and competencies that you acquired during the production phase?
  
12. What did you learn about yourself?
  
13. Describe in detail your endeavors to design and create the highest quality product.
  
14. Assign an academic letter grade for your product. \_\_\_\_\_
15. Explain this grade in at least 50-words.

**Student Statement:**

On my honor and to the best of my knowledge, all the information provided in the self-reflection is accurate and true.

Student Signature: \_\_\_\_\_

Date: \_\_\_\_\_

**Mentor: Product Validation Form**

**Student Name:** \_\_\_\_\_ **Academy Teacher:** \_\_\_\_\_

**Project:** \_\_\_\_\_ **Mentor Name:** \_\_\_\_\_

Student: The Product Validation Form must accompany the submission of the final product.

Mentor: Complete the Product Validation Form by confirming the following items with comments.

Product Validation Focus	Confirmation & Comments
Product Completion Time	Total Number of Hours: _____  Comments:
Project Inspections (during design & build)	Fill in Yes/No for the execution of project inspection during the project: <ul style="list-style-type: none"> <li>• Initiation: _____</li> <li>• Planning: _____</li> <li>• Build: _____</li> <li>• Final: _____</li> </ul> Comments:
Issues/Challenges (during project scope)	Issues/Challenges:  Solutions:  Comments:
Summarize Mentee's Professionalism & Growth	Comments:  Professionalism:   Growth:

\_\_\_\_\_  
Mentor Name

\_\_\_\_\_  
Mentor Signature

\_\_\_\_\_  
Title/Occupation

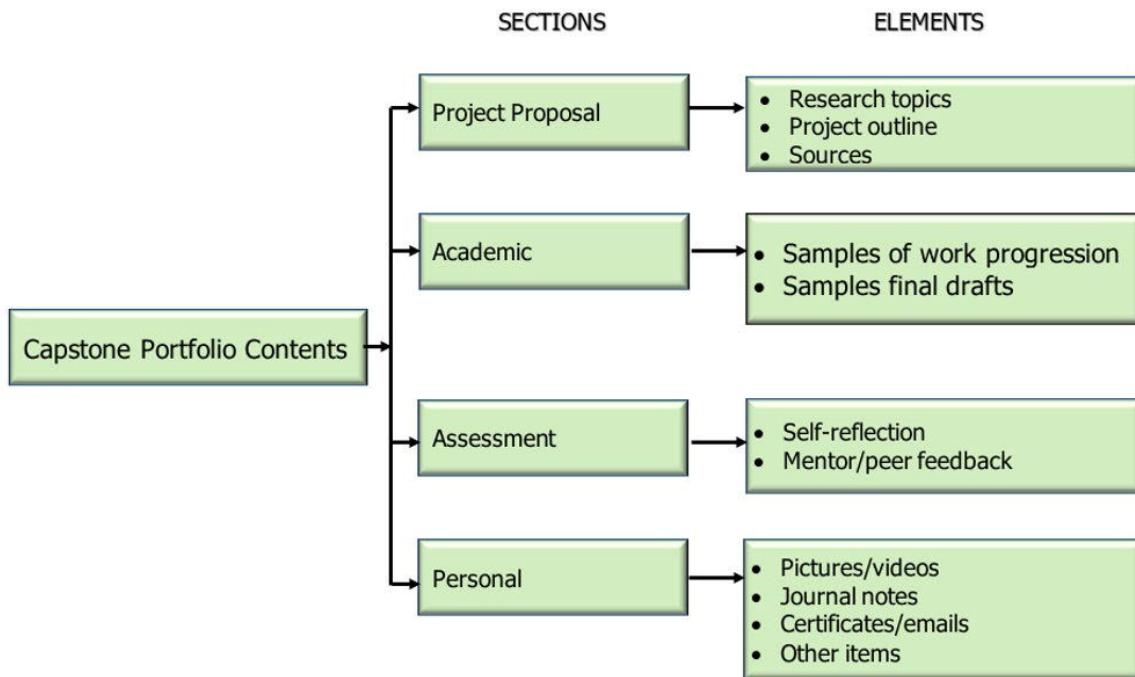
\_\_\_\_\_  
Email Address

## Portfolio Guidelines

Create an ePortfolio or digital collection of documents and artifacts that showcase your ongoing progress as you work through the capstone project. Also, an ePortfolio provides a record of your progress and communication with support team members. Capture other aspects of your NAF experience, such as job shadows and internships. Sections of the ePortfolio may vary, but typically, the sections include:

- *Project proposal* includes the details of the research topics, a project outline, and the research references and sources.
- *Academic* focus on work samples that benchmark the significant milestones of the project.
- *Assessments* include the checkpoints throughout the project to evaluate your progress, including self-reflection notes, graded assignments, and feedback given by teachers or mentors.
- *Personal* provides information to highlight your unique features and talents, including photographs, videos, certificates of accomplishment, and other significant items related to the project.

### Portfolio Contents



The recommended steps are:

- Select a dynamic web service for your ePortfolio. [GoogleDocs](https://docs.google.com) allows individuals to create and publish a presentation portfolio that allows interactivity.
- Collect photographs, certificates, contact logs, journal entries, emails or letters, and other articles.
- Provide a record of your progress and communication with support team members and mentors.
- Update the ePortfolio regularly for progress checks.
- Pay attention to the visual presentation and include all required portfolio documentation.
- Eligible for portfolio grade after meeting all other capstone project requirements.

## Portfolio Requirements Checklist

The ePortfolio is a journal that captures the milestones of your capstone project experience. The *Capstone Project Calendar* (p. 7) establishes the completion timeline for each capstone project component. As you complete each required form or component, file the documents in the recommended order in the ePortfolio.

Portfolio Requirements Checklist		
<b>Pre-requisites for Final Portfolio Grade:</b>		
<input type="checkbox"/> Submission of final research paper <input type="checkbox"/> Completion of product <input type="checkbox"/> Fulfillment of mentor requirements <ul style="list-style-type: none"> <li>• Mentor Information Form (p. 20)</li> <li>• Mentor Contact Logs (p. 23)</li> <li>• Mentor Product Validation Form (p. 29)</li> <li>• Thank-you Letter (p. 24)</li> </ul> <input type="checkbox"/> Presentation of capstone project		
<b>Creation of ePortfolio</b>		
1. Create ePortfolio sections – use cover pages for separation	2. Express yourself by being creative as you assemble your ePortfolio.	3. Include all documents listed in <i>Portfolio Requirements Checklist</i> (p. 31) 4. Prepare an ePortfolio personalized with photographs/videos and graphics.
Components	√	Portfolio Required Items
<b>Portfolio</b>	<input type="checkbox"/>	Cover: capstone project title, student, academy, teacher, period, & date
	<input type="checkbox"/>	Table of Contents
	<input type="checkbox"/>	Judges’ Letter
	<input type="checkbox"/>	Resumes & Certificates
	<input type="checkbox"/>	Research Paper – final copy
	<input type="checkbox"/>	Presentation PowerPoint - product showcase
	<input type="checkbox"/>	Capstone Project Proposal
	<input type="checkbox"/>	Mentor Information Form
	<input type="checkbox"/>	Mentor Contact Logs
	<input type="checkbox"/>	Mentor Final Verification of Product Form
	<input type="checkbox"/>	Mentor Thank You Letter
	<input type="checkbox"/>	Journal Reflections
	<input type="checkbox"/>	Product Self-Reflection Questionnaire
	<input type="checkbox"/>	Professionalism and Ethics Guidelines
	<input type="checkbox"/>	Teacher Approval: Capstone Project Proposal
	<input type="checkbox"/>	Parent Approval: Research Topic, Product, & Requirements
<input type="checkbox"/>	Awards Certificates Emails/letters Evaluation forms Journal notes/outlines Project/product plans Support team list	Pictures/Videos: Job shadow/Internship Mentor Stages: Product development Teachers & support team Self-portrait Workgroup

## Presentation Guide

### Presentation

The capstone project presentation highlights the program's culmination of study experiences aligned with the academy career theme. You participate in a showcase to present your capstone project to parents, peers, school faculty, administration, advisory board, and community members.

**Resource:** Review and study [How to Create an Effective Presentation PowerPoint](#).

### Preparing for the Presentation

The recommended considerations are:

- Ensure completion of the research paper, product, and ePortfolio by the designated deadlines to be eligible to present your capstone project.
- Prepare for a 10-15-minute public exhibition.
- Expect clarifying questions from a panel of judges from the related career or industry.
- Review the Presentation Guide (pp. 32-37) and *Capstone Project Rubric* (p. 18-19) to prepare to demonstrate the competencies assessed in the rubric domains.
- Focus on three primary areas during the presentation:
  - Visual representation
  - Content and talking points
  - Delivery and appearance

Presentation Preparation	
Focus Area	Considerations
<b>Visual Representation</b>	Help the audience to follow a logical sequence of the content presentation.
	Focus on engagement with clarity and substance versus a flashy show that can be distracting.
	Use technology – PowerPoint, Google Slides, and video as visual aids. Review <a href="#">How to Create an Effective Presentation PowerPoint</a> .
	Consider live demonstrations of skill or showcase the capstone product.
	Use photographs of authentic situations in the career field or profession or persons in their natural work environment.
<b>Content &amp; Talking Points</b>	Create an outline of the primary stages of the capstone project.
	Present the thesis statement for the research paper and explain the relevance and importance of the topic.
	Address the topic by pointing out the unusual and intriguing facts to engage your audience.
	Share the process of creating the capstone product and include the challenges, triumphs, and other achievements.
	Explain all technical or significant terms that may confuse the audience.

Presentaton Preparation	
Focus Area	Considerations
<b>Delivery</b>	Use notecards as a guide but do not read from the cards.
	Use the visual outline to proceed through the presentation and point to corresponding diagrams and facts as you speak.
	Walk around within the defined stage area to engage the audience and point to essential items on the presentation screen.
	Use your hands to gesture for emphasis.
	Modulate your voice and repeat crucial information to highlight essential points to focus the audience's attention.
	Make eye contact with all the judges and the audience.
<b>Appearance</b>	Be poised and well-groomed.
	Dress to impress and wear business attire.
	Remove distracting jewelry unless they are an integral part of your presentation.
	Be aware that some mannerisms are distracting to the audience.

### Questions Posed by Judges

Anticipate clarifying questions from the panel of judges after your presentation. Consider the following:

Types of Questions	
<b>General Questions</b>	Why did you select this topic for your research?
	What did you hope to achieve by researching this topic?
	What significant insight did you learn from your research?
	How does your product contribute to solving the research problem/issue?
	What was your <i>stretch</i> in creating this product?
	What was your mentor's role during the design/build of the product? Describe your experience and process for developing the capstone product.
	What challenges did you face in completing your capstone project?
	What were the benefits that you resulted from designing/building this project?
	What costs did you encounter?
<b>Specialized Questions</b>	What equipment did you need to build the product?
	Discuss the product benefits and features that can contribute to advancements in your career field.
	How can you improve your product? Discuss the additional research required or future applications.

## Organizing The Presentation

### Requirements

Present a 10-15-minute speech to engage a panel of judges and dress in appropriate business attire to emulate a real-world business meeting.

### Planning the Presentation

Organize your presentation by developing a presentation outline that focuses on the primary research concepts and the process of designing and building the capstone product.

Outline the presentation's main points on notecards and practice referring to them only to maintain a logical sequence. Practice the presentation in front of a mirror and time your presentation's length to ensure that you address all vital points. Practice! Practice! Practice! It is crucial to make regular eye contact with all judges and speak slowly and clearly. Study and memorize your talking points so that you do not have to read the notecards.

Toastmasters Recommendations for Presentation	
<b>Start with a Formula</b>	<b>Other Opening Techniques</b>
1. Tell them what you're going to tell them.	1. State importance of the topic
2. Tell them.	2. Startle the audience
3. Tell them what you've told them.	3. Arouse suspense/curiosity
<b>Basic Speech Outline</b>	4. Tell a story
1. The Introduction	5. Ask a rhetorical question
2. The Body	6. Begin with a quotation
a. Main ideas or points	7. Reference the occasion
b. Supporting Material	<b>Successful Speech Conclusions</b>
3. The Conclusion	1. Achieve closure
<b>Begin in the Middle</b>	2. Summarize main points
1. List key points	3. Make an impact
2. Arrange them in order	4. Use only 5-10% of the speech time
3. Expand those points	<b>Some Closing Techniques</b>
4. Develop an introduction	1. Use a quotation
5. Develop a close	2. Tell a story
<b>Successful Speech Openings</b>	3. Call for action
1. Get attention	4. Ask a rhetorical question
2. Introduce the topic	5. Refer to the beginning
3. Establish rapport	6. Repeat main points
4. Use only 5-10% of the speech time	

Source: Toastmasters International Better Speaker Series

**Presentation Evaluation Rubric**

**Student Name:** \_\_\_\_\_ **Topic:** \_\_\_\_\_

**Judge:** \_\_\_\_\_ **Start Time:** \_\_\_\_\_ **End Time:** \_\_\_\_\_

**Capstone Project Presentation Evaluation Rubric**

**Section 1: CONTENT (30 pts.)**

CATEGORY	SCORE: High <span style="float: right;">▶</span> Low										
	10	9	8	7	6	5	4	3	2	1	0
Introduction • Has interesting attention getter • States or implies the purpose of the presentation											
Body of Speech • Introduction & conclusion • Accurate and appropriate details support the main ideas and points. • Project’s relationship to the career field • Demonstrates expertise in the research topic											
Organization • Logical idea flow • Evidence of preparation											
Conclusion • Summarize major concepts • Tied ideas together • Convincing closure statements											
<b>TOTAL POINTS – Section 1</b>	<b>Points</b>										

**Comments:**

Capstone Project Presentation Evaluation Rubric											
SECTION 2: SPEECH DELIVERY (30 pts.)											
CATEGORY	SCORE: High <span style="float:right">▶</span> Low										
	10	9	8	7	6	5	4	3	2	1	0
Presentation • Evidence of practice • Creative, original & effective • Appropriate word choice & grammar											
Body Language & Eye Contact • Engage judges & audience • Proper posture & gestures											
Speaking: Voice & Language • Volume, rate, & vitality • Enunciation & clarity											
Professional Appearance • Neatly groomed & professional dress											
Audio/Visual Component • Product/model demonstration • Enhance presentation beyond speech • PowerPoint, video, show board											
Time Management • Completed in the allotted timeframe											
<b>TOTAL POINTS – Section 2</b>	<b>Points</b>										
<b>Comments:</b>											

Capstone Project Presentation Evaluation Rubric											
SECTION 3: QUESTIONS & ANSWERS (20 pts.)											
CATEGORY	SCORE: High <span style="float:right">▶</span> Low										
	10	9	8	7	6	5	4	3	2	1	0
Impromptu Skills • How frequently, confidently, and quickly the student answers questions											
Quality of Student Responses • Meets presentation/industry standards, • Responds accurately and appropriately											
<b>TOTAL POINTS – Section 3</b>	<b>Points</b>										
<b>Comments:</b>											

Capstone Project Presentation Evaluation Rubric											
Section 4: PORTFOLIO (20 pts.)											
CATEGORY	SCORE: High <span style="font-size: 2em;">▶</span> Low										
	10	9	8	7	6	5	4	3	2	1	0
Content <ul style="list-style-type: none"> <li>• Organization</li> <li>• Complete sections                             <ul style="list-style-type: none"> <li>○ Project Proposal</li> <li>○ Academic</li> <li>○ Assessments</li> <li>○ Personal</li> </ul> </li> <li>• Captures important milestones</li> <li>• Substantial documentation</li> </ul>											
Quality <ul style="list-style-type: none"> <li>• Appeal/attractive presentation</li> <li>• Meets professional &amp; industry standards</li> </ul>											
<b>TOTAL POINTS – Section 4</b>	<b>Points</b>										
<b>Comments:</b>											

Capstone Project Presentation Evaluation Rubric											
FINAL TOTAL OUT OF 100 POINTS											
<b>TOTAL POINTS – Section 1-4</b>	<b>Points</b>										

**Letter to Judges Template**

A letter to your panel of judges is one of the first entries of your capstone project portfolio. Use the Letter to Judges Template to write the letter after completing your product.

**Sample Template for a 1-Page Letter**

**John Capstone**  
**345 Project Street, Future City, FL. 33216**  
**Email: [jcapstone@yahoo.com](mailto:jcapstone@yahoo.com) · Cell: 607.564.6789**

Dear Judging Panel,

Paragraph	Contents
Paragraph 1 Introduction	<ul style="list-style-type: none"> <li>• Introduce yourself by describing your background, identity, interest, or talent related to career theme.</li> </ul>
	<ul style="list-style-type: none"> <li>• Briefly outline the thesis statement/research and describe the capstone project.</li> </ul>
Paragraph 2 Body	<ul style="list-style-type: none"> <li>• Explain the reasons for choosing your research topic.</li> </ul>
	<ul style="list-style-type: none"> <li>• Describe how you selected your product.</li> </ul>
Paragraph 3 Body	<ul style="list-style-type: none"> <li>• Share the most challenging issue during the project and discuss the assistance provided by the mentors/teachers.</li> </ul>
	<ul style="list-style-type: none"> <li>• Explain the impact of the challenge, setback, or failure.</li> </ul>
	<ul style="list-style-type: none"> <li>• Describe the lessons learned.</li> </ul>
Paragraph 4 Conclusion & Salutation	<ul style="list-style-type: none"> <li>• Summarize the new knowledge and skills that you gained.</li> </ul>
	<ul style="list-style-type: none"> <li>• Give a piece of advice for completing the capstone project.</li> </ul>
	<ul style="list-style-type: none"> <li>• Thank the judges for reviewing your ePortfolio and evaluating your presentation.</li> </ul>

Sincerely,

*John Capstone*

John Capstone

**Appendix A**  
**NAF's College & Career Readiness Skills**



# NAF: COLLEGE & CAREER READINESS SKILLS









NAF's College and Career Readiness (CCR) Skills are categorized into eight competencies that students require for success in their postsecondary education and careers. A competency is a blend of fundamental skills with the experiential and factual knowledge that one requires to efficiently and effectively perform designated standards of practice. The descriptions of the eight competencies provide a list of college and career readiness skills that students must master to demonstrate the achievement of each competency. During the students' internship experiences, their employers' supervisors will assess the mastery of each competency by using NAF's online Internship Assessment.

## *NAF: College & Career Readiness Competencies*





# NAF: COLLEGE & CAREER READINESS SKILLS

CCR Skills Category	College & Career Skills Assessed in NAF's Internship Assessment	Competencies & Behavioral Outcomes
	<ul style="list-style-type: none"> <li>• Work successfully and respectfully with diverse individuals</li> <li>• Share accountability for group work and recognize the contributions of team members</li> <li>• Capable of compromise and demonstrate flexibility while working with supervisors, clients, and team members</li> <li>• Use social networks and networking tools to support collaboration</li> </ul>	Build effective collaborative working relationships with colleagues and customers · Can work with diverse teams and contribute appropriately to the team effort · Negotiate and manage conflict · Learn from and work collaboratively with individuals representing diverse cultures, ethnicities, ages, gender, religions, lifestyles, and viewpoints · Use technology to support collaboration
	<ul style="list-style-type: none"> <li>• Use persuasive verbal, non-verbal, and written communication</li> <li>• Exhibit open-minded and active listening</li> <li>• Demonstrate effective use of social media, communication tools, and digital technologies for communication</li> <li>• Show understanding of how media messages may be interpreted in multi-cultural communities</li> </ul>	Comprehend verbal, written, and visual information and instructions · Listen actively · Observe non-verbal communication · Articulate and present ideas and information clearly and effectively both in verbal and written forms · Use technology appropriately for communication ·
	<ul style="list-style-type: none"> <li>• Reimagine and create original ideas</li> <li>• Share and be receptive to new thoughts and ideas</li> <li>• Implement innovations using available technology tools</li> </ul>	Identify problems and generate unique and imaginative solutions · implement original designs · Share new inventions with team members · Be open to diverse viewpoints ·
	<ul style="list-style-type: none"> <li>• Consider all likely solutions to a problem through online and field research</li> <li>• Make decisions after detailed examination and evaluation of hard evidence</li> <li>• Analyze how different parts of a project or organization interact to influence the resulting products</li> </ul>	Exercise sound reasoning and analytical thinking · Make judgments and explain perspectives based on evidence and previous findings · Use knowledge, facts, and data to solve problems · Apply systems thinking ·
	<ul style="list-style-type: none"> <li>• Locate, comprehend, and critically evaluate information and data</li> <li>• Retrieve information promptly from appropriate sources</li> <li>• Use and apply information technology tools to organize information and solve issues</li> <li>• Coordinate the flow of information from multiple sources</li> </ul>	Open to learning · Demonstrate information gathering skills such as seeking out and locating relevant information · Organize and use information correctly · Evaluate information for validity, credibility, and relevance · Reference sources of information appropriately ·
	<ul style="list-style-type: none"> <li>• Ask appropriate questions and be willing to take new steps</li> <li>• Work independently and be resourceful, flexible and adaptable</li> <li>• Be aware of one's abilities and performance</li> </ul>	Take the initiative to lead · Work independently as needed · Seek out resources to solve problems · Identify new knowledge and skills for training and development · Manage time efficiently · Learn from mistakes ·
	<ul style="list-style-type: none"> <li>• Demonstrate acceptable appearance, demeanor, reliability, and competence</li> <li>• Be accountable for time management, appropriate communication, meeting schedules, and project deadlines</li> <li>• Show integrity by being honest, fair, equitable, and dignified</li> <li>• Show an understanding of the legal and ethical issues related to retrieval and use of communications media from information technologies.</li> </ul>	Manage time efficiently · Be punctual · Take responsibility for actions · Prioritize tasks · Persist in bringing projects to completion · Demonstrate integrity and ethical behavior · Act responsibly with others in mind ·
	<ul style="list-style-type: none"> <li>• Use mathematics to solve problems</li> <li>• Analyze tables and graphs to establish trends and make interpretations</li> <li>• Evaluate reports to determine the accuracy of data and to identify mistakes</li> </ul>	Describe, analyze, and solve problems · Perform basic mathematical computations quickly and accurately · Identify possible solutions through data analysis ·