



CAPSTONE 12

WALNUT GROVE SECONDARY SCHOOL

STUDENT GUIDE



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Capstone Overview

What is a Capstone?

A culminating project, presentation, or performance that allows students the opportunity to consolidate and showcase the learning from their school and life experience into a meaningful and relevant product.

Students will use innovation, cross curricular knowledge, and critical thinking skills in an area of interest as the basis for the project, which is applicable to a real world concept.

Why a Capstone Project?

A Capstone project is a celebration of learning and experience. It is designed to encourage students to think critically, solve challenging problems and develop skill sets. It is their venue to connect with the world outside of school and to demonstrate that they have the skills to go on to further their education, enter the workforce, and/or operate their own business.

The Capstone will:

- *Help students make connections between what they are learning now and what they hope to see in their future.*
- *Provide students with focused, structured, authentic, and experiential learning; reinforce student responsibility for meeting timelines, making decisions, conducting research, preparing and making presentations – all transferable skills needed for success in the workplace.*
- *Identify a new opportunity, either for an existing entity or for the creation of a new venture, and implement the necessary skills they have built to launch their own entrepreneurial venture, research project, service pursuit, event or product.*
- *Ensure students develop the following skills:*
 - ✓ *Communication (oral and written)*
 - ✓ *Public Speaking*
 - ✓ *Research Skills*
 - ✓ *Mindfulness*
 - ✓ *Media Literacy*
 - ✓ *Collaboration*
 - ✓ *Planning and Organization*
 - ✓ *Accountability*
 - ✓ *Goal Setting*
 - ✓ *Time Management*



Capstone Components

The Capstone project consists of five (5) components that include the following:

1) THE PROPOSAL AND TIMELINE

The student will select a project strand and develop a Capstone Proposal (see Proposal Format). Students should review the proposal with parent(s)/guardian(s) and gain approval prior to the submission to the Capstone teacher. The proposal will be reviewed and approved by the Capstone teacher before any work may begin by the student. The proposal should be in the form of an inquiry question.

2) THE EXECUTION

Through the Capstone process the student transitions from the world of subject-centric learning to real-life relevance and application. This is where the student gets to apply everything they have learned over the past 12 years, as well as when students will be stretched to learn and apply new skills and/or knowledge.

The student will conduct research and maintain a collection of work product evidence for use later in the Capstone (see Portfolio below). Students are encouraged to be creative in the work products they provide as evidence of their efforts (see your strand for details). This independent part of your Capstone should take approximately 40 hours to complete.

3) THE PORTFOLIO

Student will assemble a paper or online portfolio that includes a collection of research, work and evidence. The student should select work that they believe best represents their experience. The portfolio must include the proposal plan, timeline (to be completed PRIOR to beginning your project), journal of progress, etc., and may include any other important documents, photos or electronic evidence resulting from the student's efforts.

4) THE PRESENTATION

In the final step of the Capstone process, student will participate in a 'gallery walk' style presentation (see Presentation Guidelines). The presentation should incorporate components of the portfolio and be delivered utilizing multiple mediums.

5) THE REFLECTION PAPER

In addition to the above components, student will write a final reflection paper that describes and consolidates their experience. Please see guideline for the reflection paper.

Selecting a Capstone Strand

STEP 1 – GENERALIZE

In this step, determine a general area(s) of personal interest.

EXAMPLE AREAS OF INTEREST:

| | |
|-----------------------------------|-------------------------|
| <i>Environmental Science</i> | <i>Industrial Arts</i> |
| <i>Classic Literature</i> | <i>Agriculture</i> |
| <i>Visual and Performing Arts</i> | <i>Business/Tourism</i> |
| <i>Computer Science</i> | <i>Human Services</i> |

STEP 2 – NARROW DOWN THE SUBJECT AREA

In this step, explore your general subject area to determine a specific area of interest

- *Why does this subject area interest you?*
- *Does this subject area have long term interest? Why?*
- *Do you have particular skills and/or knowledge already in this area that you are looking to expand?*
- *Are there people around you or that you have access to that may be interested in getting involved or assisting you?*
- *Specifically, what parts of the subject are you curious about or are most interested in?*

STEP 3 – CHOOSE A TOPIC WITHIN YOUR SUBJECT AREA (CAPSTONE APPROPRIATE)

In this step, consider your access to resources. The Capstone should stretch your abilities and create new learning opportunities, but it should not stress you out because you can't get access to the resources you need to complete it.

- *Do you have some general skills and/or knowledge in the topic?*
- *Will the topic challenge you? Is this challenge surmountable?*
- *If you believe your topic may include community service activities or an internship, do you have organizations or companies within your area that you can approach to work with? • Do you have access to other individuals that may have some expertise in the topic area?*

STEP 4 – CHOOSE A PROJECT STRAND

In this step, determine the best method to showcase the topic of your Capstone by reviewing the description of the requirements of each project strand. Below are examples of how a student might arrive at a Capstone strand selection. It is critical to understand that any Capstone could fit into any strand. The ultimate decision of how you arrive at your selection is by reflecting on how you learn best and how you enjoy spending your time.

Example 1

Step 1: Computer Science

Step 2: Network Management

Step 3: Student has taken computer classes and develops small websites as a hobby. Uncle works for a local computer consulting company that is open to an internship.

Step 4: Career-Exploration Capstone with an internship working with the Information Technology team at the local computer consulting company

Example 2

Step 1: Architecture

Step 2: Modern Design and Construction

Step 3: Student has always enjoyed or been drawn to this particular design of buildings. Perhaps the student is an artist, or may have even taken classes where they have been introduced design and build software.

Step 4: Product Capstone with a specific focus on designing and building a model of a small private residence using modern architecture design techniques.

Example 3

Step 1: Human Services

Step 2: Elderly Care

Step 3: Student currently volunteers at a local retirement center and has observed the interaction between the residents of the center and children that have visited residents in the center.

Step 4: Service-Oriented Capstone with a specific focus on the development of a new socialization program for residents at the retirement center. Program may include a monthly event in partnership with a local elementary school where students “adopt” and visit a resident of the retirement center

Remember, this is your project, but it is quite acceptable, and encouraged, to learn from others and their experiences.

Strand Choices

Your Capstone should fall within a pre-determined “strand.” The specifics of each person’s capstone will be unique, however the category within which it lies will be made up of one of the following:

Event



Project



Entrepreneurial



Service-Oriented



Experimental Research



The following pages will describe and provide specific overviews, steps, and examples for each strand.

If your idea for a Capstone does not fall within one of these strands, that doesn't necessarily mean it won't be allowed. However, in this case, you will be expected to speak with your Capstone teacher for approval and guidance as you create your proposal.

OPTION A: Event Capstone

The main focus of the event Capstone is for students to research, create, and host their own event. Planned events should connect to an area of student interest and should provide opportunity for not only students, teachers and parents to participate, but also for community members. This would be an ideal Capstone choice for students who are interested in event planning and management, networking, raising awareness, and social activism.

In an event Capstone you will begin by developing a firm understanding of your chosen area of interest. It is essential that you choose an event style that works best for you and your area of interest: entertainment event, sports event, educational event, fundraising event, awareness event, online event etc. It is possible for students to host an event that has already been created, but the student must still complete each component of the event Capstone.

STEPS OF EVENT STRAND:

- 1. Select an area of interest**
- 2. Research and select an appropriate event style for chosen area of interest**
- 3. Create overall timeline/outline for event**
- 4. Connect with members of the community to help/support your event**
- 5. Research and organize/book event location option**
- 6. Research and acquire essential technology for event**
- 7. Research, determine and contact guest speakers, talent, agencies, helpers etc.**
- 8. Research and determine material list**
- 9. Research and create budget**
- 10. Create and distribute event marketing**
- 11. Prepare for MC (master of ceremony) role if needed**
- 12. Host event**
- 13. Post event debrief**

How do you organize and run a(n):

- ❖ Entertainment Event?
- ❖ Special Awareness Day/Week?
- ❖ Educational Event?
- ❖ Sport Event?
- ❖ Fundraising Event?
- ❖ Online Event?

OPTION B: Project Capstone

The main focus of the project Capstone is for students to construct a tangible product. Project development may be related to a possible career choice, an extension of prior knowledge, an opportunity to attempt new learning, or a way to help construct something that you feel will benefit your community. Students choosing this strand will spend a minimum of 40 hours working to develop, design and build a model of a physical product. The project should incorporate a minimum of 2 disciplines: math, science, nutrition, social justice, engineering, etc.

Example: Build a greenhouse for the use of your community's food bank, or build your own car.

STEPS OF THE PROJECT STRAND:

- 1. Select two or more disciplines of interest**
- 2. Brainstorm ideas of a product to develop that will incorporate chosen disciplines**
- 3. Research the product itself and answer the questions:
What/ Why/ How?**
- 4. Connect with members of the community to help support your learning**
- 5. Research and plan what you will need to move ahead**
- 6. Design your product**
 - a. Create a blueprint:**
 - b. Construct an equipment or material list**
 - c. Develop a budget, if needed.**
 - d. Write your proposal and get it approved by your teacher/guardians**
- 7. Create your project/product (40 hours)**
 - a. Keep a diary (written and visual) of your progress, struggles and successes.**
 - b. Keep good time management**

Examples of Project Capstone:

- ❖ How would you design and build an environmentally sustainable bike trail?
- ❖ What does the community need that I can build? (such as furniture that you can then donate)
- ❖ How can you improve communication within the school? (website, app, newspaper, magazine etc..)
- ❖ What computer application or app could you build that would benefit seniors?
- ❖ How do I build and install a custom sound system in a car?

OPTION C: Entrepreneurial Capstone

The main focus of this strand is to create a cross curricular, experiential, and community-based approach, in which students will experience the start of a new business initiative, the building and execution of an idea from the ground up.

Entrepreneur Steps:

- Work with the mentor toward the common goal of creating free enterprise while meeting a need, providing students the opportunity to engage in real life practice
- Conceptualize a business or a product which is original to you

STEPS OF THE ENTREPRENEURIAL STRAND:

1. **Conceptualize:** authentic or fictional business, profit or not for profit
 - a. You should spend time framing and structuring the problem you are solving. You need to ask open-ended questions to yourself or a potential customer – ‘Why, What, Who, Where, When and How’ about the problem. You need to think that you are the customer of your product or service and have that mindset. Remember that customers buy products or services that solve their problems.
 - b. Work with your supporting teacher toward the common goal of creating free enterprise while meeting a need.
2. **Market research and analysis:** the process of gathering information which will make you more aware of how the people you hope to sell to will react to your current or potential products and services
 - a. **Primary research:** original information gathered through your own efforts to respond to a specific question or set of questions. This information is normally gathered through surveys, observation, or experimentation.
 - b. Research your chosen entrepreneurial endeavour and prepare a business plan
3. **Design a business plan or canvas:** the acquisition of knowledge through researching, writing, interviewing, and application of the real-world skills (www.strategizer.com)
 - a. **Product** — Improve your product or service based on findings about what your customers really want and need. Focus on things like function, appearance and customer service or warranties.
 - b. **Price** — Set a price based on competitors' prices, or the price a customer is willing to pay.
 - c. **Placement** — Decide where to set up and how to distribute a product. Compare the characteristics of different locations and the value of points of sale (retail, wholesale, online).
 - d. **Promotion** — Figure out how to best reach particular demographics (teens, families, students, professionals, etc.) in areas of advertising and publicity, social media, and branding
 - e. **Implementation of Service or Product Budget:** In the startup phase, you'll have to make reasonable assumptions about your business in establishing your budget.

Examples for an Entrepreneurial Capstone:

- ❖ What would be an effective tutoring program?
- ❖ How can you use social media and apps to generate sales?
- ❖ What would be an effective product to sell at a sporting event?
- ❖ How can I create my own clothing line using recycled materials?
- ❖ What are the logistics in creating a personal shopping service for seniors?
- ❖ How do I create a business that allows me to showcase my talents?

OPTION D: Service Oriented Capstone

The main focus of the service-oriented Capstone is for students to research an issue of interest that is affecting their community and develop and implement a solution. Students will devote a minimum of 40 out of school hours to a community or service project. Community service is work done by a person or group of people that benefits others. It is often done near the area where you live, so your own community reaps the benefits of your work.

STEPS OF SERVICE ORIENTED STRAND:

- 1. Research a current “issue” and its importance to the community it serves**
- 2. Ask specific questions about the issue you have chosen**
- 3. Research and answer questions about the issue and identify solution to this problem**
- 4. Implement the project to support the solution**

Examples for Service Oriented Capstone:

- ❖ How do I develop and implement a unique promotion for raising funds for a local charity?
- ❖ How do I address an unmet community need and assess the long-term impact on myself and the community?
- ❖ How can I mentor younger students to develop self-esteem?
- ❖ What can I create that will impact my community? (community clean-up, clothing drive, organize a workshop for seniors)

OPTION E: Experimental Research Capstone

The main focus of an academic research paper or experiment Capstone is to develop new arguments or insights. For students who are curious about a specific area of study and would like to have the opportunity to further explore, research, and gain scholarly knowledge they may use the research or experiment method to further engage in a cross-curricular area of study.

In a research paper, you will start by using previously published literature as a foundation and support to help you develop your own understanding of a topic and to further develop your guiding research question. Research papers should be properly sourced (APA, MLA) and should be at least 12 pages in length.

Below is a table outlining the difference between a research paper and a report. For your Capstone you will be writing a research/experiment paper, not a report.

| Research / Experiment Paper | Report |
|--|---|
| <input type="checkbox"/> Purpose: TO CONVINC | <input type="checkbox"/> Purpose: TO INFORM |
| <input type="checkbox"/> QUESTION – based | <input type="checkbox"/> TOPIC – based |
| <input type="checkbox"/> Has a clear, arguable THESIS | <input type="checkbox"/> General discussion |
| <input type="checkbox"/> YOU use data and ideas as evidence to support your position | <input type="checkbox"/> Summarizes information gathered |
| <input type="checkbox"/> YOU analyze and interpret information | <input type="checkbox"/> Presents analysis and interpretation of OTHERS |
| <input type="checkbox"/> YOUR unique perspective and conclusion | <input type="checkbox"/> Does not result in new knowledge |

Steps of Research Strand:

1. Develop a guiding research question
2. Literature review of # ___ academic sources
3. Create a thesis statement
4. Create an essay proposal to be reviewed
5. Connect with members of the community to help/support your research
6. Conduct research
7. Collect data
8. Write your first draft
9. Have someone provide feedback/edits
10. Revise & type final paper
11. Include properly sources references (teacher's discretion)

Example Guiding Questions for Research Capstone:

- ❖ Do post-secondary graduates make more money than people who do not attend post-secondary school?
- ❖ Do our grocery stores allow us to truly eat a local diet?
- ❖ Can technology in the classroom lead to higher grades for struggling learners?
- ❖ Do outdoor recreation opportunities lead to more environmentally focused citizens?

Steps of Experiment Strand:

1. **Select a topic of interest/Develop a guiding question**
2. **Identify a research problem/guiding question**
3. **Conduct a literature review**
4. **Connect with members of the community to help/support your experiment**
5. **Develop a hypothesis**
6. **Determine variables that may impact your experiment**
7. **Develop experimental design**
8. **Conduct experiment**
9. **Analyze data**
10. **Conclusions**

Example Topics for Experiment Capstone:

- ❖ Do geese populations negatively impact the water quality of Burnaby Lake?
- ❖ Do SAD (Seasonal Affectiveness Disorder) lights have a positive impact on a person's mood?
- ❖ Does music tempo have an impact on work productivity?

Capstone Portfolio

The Capstone Portfolio must include the proposal, plan, timeline, and journals of progress using evidence resulting from the student's research and efforts.

What will be in your PORTFOLIO??

I. PROPOSAL:

Your accepted proposal letter, signed by parent/guardian and Capstone teacher must be included.

II. TIMELINE:

Your completed timeline of due dates, meetings, work periods, presentation dates, etc. must be included. A timeline should be completed PRIOR to beginning your project and needs to be included with your proposal.

III. JOURNAL OF PROGRESS

Journals are to be completed by scheduled deadlines and submitted via paper, myBlueprint, blog, or email)

To help you stay on task, be accountable for your scheduled timeline, and effectively reflect on your experiences, you will keep a bi-weekly Journal of Progress throughout the project. The Journal of Progress will be a quick and efficient way to show your teacher exactly where you are in the process and will serve as an invaluable resource when you write your final reflection at the end of the year. **The completion of the journals is mandatory. Each journal will be assessed (according to the rubric) and will comprise a large portion of your final grade for the Capstone course.**

Journal due dates:

Fri, Jan 17

Fri, Jan 30

Fri, Feb 14

Fri, Feb 28

Fri, Mar 13

Fri, April 3

Fri, April 7

- Each journal entry should be dated and titled based upon the part of the process in which you are currently working.
- Journal entries are a personal documentation and reflection of your journey. Each entry can be conveyed in multiple mediums (written, collage, video, audio, picture etc.).
- Each entry should address the following:
 - A summary of your progress for these 2 weeks
 - Your needs, including time, space, materials, and personal contacts
 - Any obstacles you have encountered and how you moved forward despite them
 - Any obstacles you anticipate encountering moving forward
 - An explanation of what core skills you employed during your work and what learning that took place
 - Your goals and deadlines for the next 2 week period

IV. EVIDENCE & ARTIFACTS:

This includes any or all of the formats listed above that demonstrate your research, progress, efforts, and correspondence; in short, anything you used to complete this project. Research notes, media such as photographs, videos, music, models, websites, podcasts, interest & ability assessments, business correspondence, marketing & financial information, etc.

Sample Journal of Progress Template

Name:

Date:

Progress I have made during these past two weeks:

What I need to move forward with my Capstone (time, space, materials, contacts)

Obstacles I have encountered and how I've moved forward:

Obstacles I can foresee in my next steps:

The skills I've used and what I've learned:

My goals and deadlines for the next 2 weeks:

Final Self-Assessment Journal Entry

The last requirement of the Capstone Project is to reflect on the process by writing a final journal reflection on your process, final product, and presentation addressing the following questions. This will be completed and submitted via myBlueprint.

REQUIRED QUESTIONS:

- *The Capstone is a unique and demanding challenge. In completing it, what did you learn about your subject? Your skill set? Yourself?*
- *How is your project relevant to you, the school or the community-at-large?*
- *How did you demonstrate the six Core Competencies throughout this project? (See attached Core Competency sheet)*
- *What impact if any did your Capstone project have?*
- *Thinking about the whole process and your finished product, what are you most proud of?*
- *What was a difficulty you encountered and how did you solve the problem?*
- *What is one thing about your finished project you wish you could change? Why?*
- *What advice would you give to a student who will be completing their Capstone Project next year?*
- *What source from your research helped you the most? (or least?).*
- *What is one thing about your approach to your project that you wish you could change? Why?*

Presentation Requirements

The final phase of the Capstone is a presentation. Your presentation, supported by audio/visual aids, will serve to celebrate your journey.

PROFESSIONALISM

Appearance: you should be dressed appropriately for your presentation. Your dress and personal appearance is an important part of the presentation.

Attendance: you **need** to arrive at least 30 minutes before your presentation. If using equipment or any technology, you **must** make sure that it is set up **before** presentation starts.

PRESENTATION

Whatever your method of presentation, you should begin or conclude by introducing yourself and your Capstone Project. Your goal is to provide the audience with a clear and concrete sense of what you did and what you gained from the experience.

Have a recognizable introduction and conclusion

Describe the content of your research, project or event.

How was your project a challenge for you? How did it stretch or enhance your skills and knowledge? Include audio/visual aids (poster, PowerPoint, Prezi, video, performance, demonstration, etc.,) that will help your audience better understand what you learned from your Capstone Project.

If your project resulted in an actual product, this product or pictures of the product need to be part of your presentation.

If you choose to use a video clip to support your presentation, it cannot be longer than 1:30 seconds.

Throughout your presentation, you must show evidence of the 6 Core Competencies through depth of understanding of your topic, the progression you achieved throughout your project and the self-reflection you went through.

Remember that you are the expert and have invested a significant amount of time and energy into this project. Speak clearly and with appropriate pace. Show your confidence and enthusiasm for what you achieved. This a huge accomplishment and you should be proud of yourself.

Helpful Presentation Tips

| | |
|--|---|
| Introduction | Introduction is creatively designed to effectively engage the audience. |
| Organization | Effectively presents information, findings, and supporting evidence so listeners can follow the line of reasoning; organization, development, and style are appropriate to task, purpose, and audience. |
| Link between research and actions | Thoroughly identifies and explains the link between research and actions. |
| Core Competencies | Clearly identifies, explains and connects to the 6 Core Competencies. |
| Presentation of knowledge and ideas | Effectively use speech to communicate key ideas. |
| Delivery | Use appropriate voice projection, inflection, eye contact and dress professionally. Keep appropriate pacing and respect audience member's time. Use positive and confident body language. |
| Vocabulary | Use academic and domain-specific words and phrases, and clarify unknown words and phrases. |
| Visual aids | Strategically use digital media and/or visual displays of data to express information and enhance understanding of findings, reasoning and to add interest. |
| Audience | Be prepared to respond to questions. |