

École Kwantlen Park Secondary



Capstone Project Guidebook

Block: _____ Teacher: _____ Name: _____

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"We wish to express our gratitude to School District 8 Kootenay Lake for generously sharing your experience, knowledge, and expertise with us and to École Panorama Ridge Secondary for allowing us to borrow and adapt their Capstone model."

Capstone Overview

What is a Capstone?

A capstone project is a celebration of learning and experience. It is 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?

The purpose of the capstone is to let students demonstrate the knowledge, competencies and passion(s) that they can offer the world, as they integrate personal interests, strengths, and new learning with preferred future possibilities. It is designed to encourage students to think critically, solve challenging problems and develop skill sets. It is a way for students 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 their learning now and their future.
- Provide students with focused, structured, authentic, and experiential learning;
- Allow students to practice 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 and implement the necessary skills they have built to launch their own entrepreneurial venture, research project, service pursuit, event or product.

- Ensure students meet Core Competencies:



C **Communication**

1. Connect and engage with others
2. Acquire, interpret, and present information
3. Collaborate to plan, carry out, and review constructions and activities
4. Explain/recount and reflect on experiences and accomplishments



T **Creative Thinking**

1. Novelty and value
2. Generating ideas
3. Developing ideas



T **Critical Thinking**

1. Analyze and critique
2. Question and investigate
3. Develop and design



PS **Positive Personal & Cultural Identity**

1. Relationship and cultural contexts
2. Personal values and choice
3. Personal strengths and abilities



PS **Personal Awareness & Responsibility**

1. Self-determination
2. Self-regulation
3. Well-being



PS **Social Responsibility**

1. Contributing to community and caring for the environment
2. Solving problems in peaceful ways
3. Valuing diversity
4. Building Relationships

Capstone Components

The Capstone Project has 5 components that include the following:

1). Proposal

The student will select a project strand and develop a Capstone Proposal. 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.

Each student must identify a mentor from their community as part of their proposal.

2.) Execution (Strands)

The execution component of the Capstone is where the FUN BEGINS. 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 11/12 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).

3.) Portfolio

Students will assemble a 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), journals of progress, etc., and may include any other important documents, photos or electronic evidence resulting from the student's efforts.

4.) Presentation

In the final step of the Capstone process, the student will deliver a 20 minutes presentation to a review panel (see Presentation Guidelines). The presentation should incorporate components of the portfolio and be delivered utilizing multiple mediums.

5.) Reflection

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

Selecting Your Capstone Strand



You may already know exactly what Capstone you wish to pursue or perhaps you don't know where to begin. We have provided an approach for brainstorming and selecting a topic. Remember, this is a project that you will invest a significant amount of time and energy into. It should be something that you are passionate and excited about so that you will learn from the experience and have a great time doing it. The following steps are guidelines for brainstorming and selecting an exciting and interesting Capstone.

Step 1 – Generalize

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

- Subject area should be relatively broad and something you are interested in.

Example Subject Areas:

<i>Environmental Science</i> <i>Classic Literature</i> <i>Visual and Performing Arts</i> <i>Computer Science</i>	<i>Industrial Arts</i> <i>Agriculture</i> <i>Business/Tourism</i> <i>Human Services</i>
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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 (must be 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/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: Project 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

Strand Choices - Research/Experiment 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 paper**, not a report.

Research (Position) Paper	Report
<input type="checkbox"/> Purpose: TO CONVINCe	<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 mentors or members of the community to help/support your research
6. Conduct research
7. Collect data
8. Write your first draft
9. Have some provide feedback/edits (mentor)
10. Revise & type final paper
11. Include properly sources references (teachers 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 mentors or 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 Kootenay Lake?
- Do SAD (seasonal effectiveness disorder) lights have a positive impact on a person's mood?
- Does music tempo have an impact on work productivity?



Strand Choices – 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 mentors or 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
12. Host event

Examples of Event Capstone:

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



Strand Choices – Project Capstone

The main focus of the project Capstone is for students to construct a tangible object. 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 will 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 write a play to spread awareness of LGBTQ+ challenges.

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 mentors or 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 outside of school time)
 - a. Keep in regular contact with your mentor
 - b. Keep a diary (written and visual) of your progress, struggles and successes.
 - c. Keep good time management

Examples of Project Capstone:

- Build a bike trail
- Write, act, direct, produce a play that you wrote
- Produce a school magazine or newspaper
- Create a school news website
- Build a piece of furniture to donate
- Develop a computer program with a practical application
- Develop an app.
- Design and build a display case for a local business
- Plan and create a five course meal
- Install a sound system in a car
- Write a family history and present as an art piece
- Apprentice with an elementary teacher and teach a lesson to the class



Strand Choices – Career/ Entrepreneur 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.

Students will:

- Focus on an area of study/career field that they may pursue after graduation or post-secondary schooling research a career of interest
- Identify local businesses, organizations or companies that can be a source of information and sponsor for mentorship
- Incorporate ACTIVE job shadowing/internship hours with a chosen mentor(s)
- Work with the mentor toward the common goal of creating free enterprise while meeting community need, providing students the opportunity to engage in real life practice
- Conceptualize a business or a product which is original to them
- Research a selected business and prepare a business plan

Steps of the Entrepreneurial Strand:

1.) **Conceptualize:** authentic or fictional business, profit or non-profit

- 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.
- Brainstorming is the best bet.

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

- **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.

3.) Design a business plan: the acquisition of knowledge through researching, writing, interviewing, and application of the real-world skills

- **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.

- **Price**

Price based on competitors' prices, or the price a customer is willing to pay.

- **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, and online).

- **Promotion**

Figure out how to best reach particular demographics (teens, families, students, professionals, etc.) in areas of advertising and publicity, social media, and branding

- **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 of Entrepreneurial Capstone:

- Develop and execute a tutoring program
- Establish a teen coffeehouse as a way to share poetry
- Have an ice cream cart during sporting events
- Create a free coupon app for smartphones
- Day camp for pets
- Personal shopping service for seniors
- Use recycled materials for clothing/shoes
- Labels that allow parents to find lost toys and clothing via online tracking

Strand Choices – 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:

Research a current issue and its importance to the community it serves.

1. Ask specific questions about the issue you have chosen
2. Research and answer questions about the issue and identify solution to this problem
3. Implement the project to support the solution
4. Complete reflection paper on your service experience

Examples for Service Oriented Capstone:

- Develop a unique promotion for raising funds for a local food bank
- Start a non-profit organization to address an unmet community need
- Develop and implement a unique promotion for raising funds for a local charity
- Organize and run a community clean-up effort of a public area, park, school, etc.
- Organize and run a fieldtrip, workshop, or seminar of interest for members of an elderly home
- Organize and run a clothing drive for a homeless shelter
- Develop and implement a community service project that addresses a specific issue