The master’s project is meant to be a culminating experience where students synthesize and integrate the knowledge they have acquired in coursework and other learning experiences throughout the program. The Master’s project includes a written paper and an oral presentation. It is expected students will demonstrate their mastery of a body of knowledge related to their MPH concentration and, of particular importance, demonstrate an ability to apply theory and principles to some aspect of professional practice. The capstone paper will generally involve a critical investigation of a public health issue or problem based on original analysis. It should approximate what would be required of a public health scientist engaged in professional practice.

The MPH master’s Project meets the requirements for a culminating experience established by our accrediting authority, the Council on Education for Public Health. The culminating experience is one that requires a student to synthesize and integrate knowledge acquired in coursework and other learning experiences and to apply theory and principles in a situation that approximates some aspect of professional practice. It must be used as a means by which faculty judge whether the student has mastered the body of knowledge and can demonstrate proficiency in the required competencies (PHP Program Criteria, CEPH, http://www.ceph.org/).

What are the possible forms that the capstone paper can take?
The paper can take many forms including one of the designs below, an expansion of a course project, or an internship or practicum opportunity. The overarching principle for determining suitability of a capstone project is whether it provides students the opportunity to apply the skills and competencies acquired in the MPH program to a problem likely to be encountered in public health practice. The topic and format of the capstone project is flexible and is developed through discussions between the student and supervisor. Some examples of formats or designs for the capstone paper include:

**Critical Literature Review**
The capstone paper would be a critical, practice-focused analysis of an important public health problem through a survey of current literature on the topic. The project would include sections that clearly describe the problem, assess the problem and its magnitude, evaluate its causes and determinants, and discuss prevention and intervention strategies.

**Program Plan**
The capstone paper would involve the development of a plan to implement a public health program within a defined population or community. The paper will develop the current state of knowledge about the problem to be addressed, present an implementation methodology, and identify a framework for monitoring and evaluation. The paper would also address issues such as management, fiscal, ethical and logistical issues.
Program Evaluation
The capstone paper would involve the evaluation/monitoring of an existing public health program, such as process evaluation, monitoring of outputs and outcomes, impact assessment, and/or cost analysis. Students often undertake such evaluation projects in the context of their practicum placements. *These may be developed into a capstone paper, provided that the student expands their analysis to address broader significance of their work* (i.e., beyond the particular organization or program they evaluated as part of the practicum).

Policy Analysis
The capstone paper would involve analysis of the public health implications of a current or proposed policy or law. The paper might include perspectives on economics and financing, need and demand, politics/ethics/law, or quality/effectiveness.

Research Proposal
The capstone paper would simulate a grant proposal or research plan. The paper would include a clear statement of the research question, the specific aims of the proposal, review of literature, study design, methods of analysis, implications and significance of the work. The research question must be one that is encountered in professional work, such as the evaluation of a public health intervention.

Research Report
The capstone paper could involve the collection, analysis, and/or interpretation of data to address a public health problem. The paper should include sections on the research question, study design, data collection procedures, data analysis, interpretation, and significance of findings.

*Secondary Data Analysis*
Typically the capstone research paper is in the form of a secondary data analysis, using an existing data set. Please note that the appropriate ethics approval may need to be obtained for any paper that uses data gathered from human subjects. Even in cases where the data is de-identified, a determination should be sought from the SFU ethics board.

*Primary Data Analysis*
Work for the MPH capstone may also involve the primary collection and analysis of data. Data collection for the capstone is usually in the context of an ongoing study, but it is also possible (although not recommended) for MPH students to initiate an original study under the guidance of a faculty member. In the latter case, the student should allow substantial lead time for research planning and ethics approval.

In terms of assessment, the paper will be evaluated on the basis of how well it demonstrates the student’s ability to:

- succinctly define a public health issue or problem;
- discuss the public health problem within the context of public health practice and/or policy in Canada or globally;
- critically review the research literature of relevance to the topic;
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- develop a persuasive, evidence-based argument;
- where and when appropriate, describe the methodology employed or proposed (e.g., data sources; data or policy analysis, case method analysis, program evaluation, etc);
- explain findings in a style appropriate for public health practice or scholarly publication;
- analyze and interpret findings and make appropriate conclusions and recommendations for policy/practice.

Relationship of the capstone paper to the practicum project
On return from their practicum students are required to develop and present a poster that reflects their practicum experience. On completion of the poster presentation, the student will get credit (a grade of complete or incomplete) for the practicum. The practicum poster and related written materials that a student may prepare as part of their practicum may not be submitted in satisfaction of the capstone paper requirement. However, a capstone paper may include and refer to data, information, case study, and other relevant practice-based information that the student develops in the context of their practicum.

The capstone project requires a more detailed and extensive analysis than a term paper and is not merely a literature review, needs assessment, or chronology of the work in the practicum. The paper should represent an effort to synthesize or integrate across multiple public health disciplines.

Preparing the capstone paper proposal or outline
The capstone paper is meant to be a mentored experience. Students should expect to work closely with their supervisor as they write the paper. The supervisor will review and make comments on the outline/proposal to help guide the student.

Students should submit a proposal or detailed outline of their paper to their supervisor BEFORE they begin their work. Once finalized, the proposal is signed by the supervisor and the student and added to the student’s file. The proposal for your supervisor should contain the following:

Title page
- Student’s name
- Name of the supervisor

Background and rationale
- Introduction to the public health problem
- Discussion of the problem in the context of the theory, concepts, and methods of relevant public health disciplines.
- Significance for public health practice/policy
- Identification of key program competencies to be addressed during capstone. The student must consider how and in what ways the capstone will synthesize and integrate knowledge from coursework and other learning experiences that enable them to demonstrate mastery of a body of knowledge (related to their MPH concentration) and demonstrate proficiency in identified competencies.

Purpose/argument
- One or, at most, two primary research questions, topics, and/or hypotheses as appropriate
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- Argument or central purpose/thesis of the paper

Evidence to be used to develop the paper
- Data sources, as appropriate
- Methods, as appropriate
- Analysis or approach
- Ethical review (if appropriate)

Timeline
- Include proposed dates of drafts/sections of paper as well as projected oral presentation date

Preparing the capstone paper
The paper should be written in a scholarly style with correct referencing. The length, excluding references and tables/figures and appendices, should be approximately 25-30 pages, double-spaced, or 5500-7000 words.

The capstone paper must be presented in a form that is amenable to examination and review. This means that documentation of the research or inquiry process must be provided in a form that allows others to follow the line of reasoning and to evaluate the credibility of the work.

At minimum, the paper must meet the criteria of content and presentation that are as rigorous as those applied to work done in a professional public health setting. Some projects can be written in a publishable style appropriate to the discipline. Students should consult with their supervisor about writing style early on in the process. However, if the paper is to be submitted to a peer-reviewed scientific journal, the student and supervisory committee may agree that higher standards are appropriate.

Although the format and topics included in a capstone paper will vary according to the form the paper takes (see above), we suggest the following as a minimal outline:

1) Title page and abstract
2) Introduction to the public health problem: i.e. “why is this a public health problem?”
3) Purpose of the paper, clear statement of the topic or problem
4) Critical review of relevant literature
5) Methods as appropriate to the form of the paper
6) Presentation and discussion of results: findings, case studies, thematic analyses, ethnographic materials, etc. (to include tables, figures, and/or exhibits)
7) Discussion of main results, including a statement of limitations as appropriate
8) Implications and recommendations for public health practice and/or policy
9) Critical reflection of the student’s role as a public health practitioner in relation to the problem, and if appropriate, to the agencies addressing the issue or problem. As well, critical reflection of the extent to which the capstone has facilitated the development of key public health program competencies.
10) References should be completed in American Psychological Association (APA) or Canadian Journal of Public Health (CJPH) style. However, if a student and their committee deem the paper
worth of submission for publication, the referencing system used for the journal to which the student intends to submit may be used.

Depending on the nature of the project and intended purpose of the report, an alternative structure and sections of the paper may be warranted (e.g., in the case of a critical essay or commentary). If so, this should be discussed with and agreed to by the supervisor.

In the discussion section students are expected to integrate their findings with relevant literature, discuss the strengths and limitations of methods/approach/analysis and consider the implications of their work for practice.

A student’s critical reflection of their role as a public health practitioner could include answers to the following: What you learned about yourself in the process of doing the work? How did your research/practice influence others? What would you do differently? As part of this critical reflection, the student should reflect on the extent to which the capstone has addressed the development of key program competencies. Similar to the practicum, students will identify priority competencies for the capstone and confirm these with their Senior Supervisor. The identified competencies will be submitted as part of the student’s ‘readiness to present’ checklist. The Senior Supervisor and the second reader will assess the capstone (or the student) in part according to whether the specified competencies were sufficiently addressed.

Project/thesis templates, are available from the Library web site: http://www.lib.sfu.ca/researchhelp-writing/theses_templates/msword_pc.htm. Please note that this template is set up for theses and so not all sections/headings may be relevant to the capstone paper.

You can browse completed capstones in the Faculty of Health Sciences Capstone Projects collection, which is part of the SFU Library's Summit database. You can also search for specific terms by entering your keywords and "Health Sciences Capstone Projects."

The oral presentation
At FHS we require all MPH candidates to formally present their capstone paper in a public venue. Students work with the Graduate Program Staff and their supervisor to identify an appropriate time/date for the presentation. Invitations to attend capstone presentations will be issued to all FHS faculty and students.

The presentation of the capstone paper will be about 20 minutes in length, and is intended to be presented in a format similar to that found in most professional conferences. In the presentation the student should clearly state their problem, describe their analysis of that problem (see “forms of the capstone paper” above), present a conclusion, and identify practice-based implications and/or recommendations. An appropriate number of slides (10-15) should accompany the presentation.

The formal presentation will be followed by a question-and-answer period. The supervisor and second reader will be offered the first opportunity to ask questions, followed by an invitation to others in the audience.

Oral presentations will be formally evaluated by the supervisor and the second reader. While the student will not be “passed” or “failed” on the basis of their presentation, the supervisory committee may find that as a result of the presentation and questions that additional development of the capstone paper is required.