

Graduate Science Education 3330 Hospital Drive NW Calgary, AB, CANADA T2N 4N1 medicine.ucalgary.ca

Candidacy Examinations in Community Health Sciences

Candidacy Purpose

"A long-standing, often dreaded element of doctoral education" is the milestone known as the qualifying examination also known as the comprehensive or candidacy examination. In some cases these examinations are "summative and backward looking, serving to assess whether a student has acquired sufficient content knowledge."

"In other cases they look forward and provide a roadmap for work to come, focusing on a student's ability to:

- Generate new insights,
- Ask questions,
- Make connections, and
- Focus on a special area of expertise."¹

For many years our examination in CHS took the summative approach – questions from a databank were randomly selected and related to knowledge in biostatistics, epidemiology and health research methods. Given the student had already passed the courses in these areas, a more forward looking approach was adopted that allowed each PhD student to study in-depth the areas that would help prepare him/her for a research career.

The thesis serves another purpose: for the student to demonstrate he/she has the ability to independently carry out a research project.

Candidacy Exam Preparation form:

- Indicates the student's proposal is complete, the committee agrees on the concept map and readings, mock exam, etc.
- note that preparation of the concept map occurs simultaneously with development of the thesis proposal

It is important to have clarity on these areas before the student begins preparing for the examination as well as for the examination itself so everyone is "on the same page" and the student has a successful and worthwhile experience. This is one of the only opportunities students get to really learn more in depth about the area they see themselves working in and begin building expertise in that area (not just in the narrow focus of the thesis).

Develop a Concept Map

- 1. define the content boundaries of research knowledge
 - the concept map should define/outline a broad "basket" of research knowledge that supports the thesis topic area it should not repeat the work being done for the thesis.
 - it establishes a broad context for the student's thesis work in preparation for a career in this area
 - it includes both content mastery as well as critical examination of the research that informs this area
 - each PhD student works with his/her supervisory committee to identify three thematic or sub-areas that define this "basket" of knowledge to provide the context for specific

¹ [Walker GE, Golde CM, Jones L, Bueschel AC & Hutchings P. (2008). The Formation of Scholars: Rethinking Doctoral Education for the Twenty-First Century. The Carnegie Foundation for the Advancement of Teaching. Jossey-Bass, San Francisco; pg 41]

- thesis research as well as more broadly for career development.
- 2. For this content, three competencies are expected:
 - a) underlying theories and conceptual frameworks
 - What has emerged in these areas that help explain, predict, connect ideas?
 - How is study in these areas framed?
 - Are there elements of different underlying disciplines?
 - b) methods/methodology (study of methods)
 - What methods are most prevalent in these fields?
 - Are there additional methodologies relevant to study in this area that the thesis does not focus on? Understanding these would provide the student with a broader base with which to move forward in his/her career.
 - What are their strengths and weaknesses?
 - Why have these methods developed (or been favored) and not others?
 - How do the methods contribute to/hinder further understanding?
 - c) research context; history and philosophy of the underlying science for this research area
 - How did researchers arrive at tools and methods that are currently in use?
 - Historically, who has influenced study in these areas and moved them forward?
 - Are there multiple leaders in development of these fields? Have their ideas been divisive, homogenous or synergistic?
 - Are there specific historic events that changed the direction or focus of studies,
 - e.g. new legislation, new technology developments, political or social factors driving/hindering this research?

Develop a Reading List

The reading list provides a breadth of information to help the student understand and contextualize his/her intended thesis and future career interests.

- While it is comprehensive, it is not intended to include all possible knowledge in the areas; it should have a broader perspective than the thesis bibliography or reference list
- Once the Graduate Program Director and the Supervisory Committee approve the list, the student can finalize retrieving these resources.
- If in the course of studying the reading list the student discovers additional references that are important to these fields, send the additions to the Supervisory Committee and the Graduate Program Director a maximum of five references can be added to the original list.
- Limiting the number of references on this reading list assists in setting a boundary around the exam expectations. It also contributes to the purpose of this examination, which is for the student to demonstrate his/her ability to critically examine the literature, think creatively/innovatively, articulate responses to the questions, and defend choices made. It is NOT to spend the three weeks searching for more references that are related in some way. The student will have an entire career to develop knowledge and understanding of this content area.

Candidacy Exam Preparation

- Preparation for the exam includes critically reading and understanding the literature that forms the basis of his/her reading list.
- This should not be done in isolation Supervisory Committee members have expertise in the examination topic areas.

The student should:

• identify concepts, ideas he/she doesn't understand; areas where findings/methods seem to contradict each

other

- prepare a short description of what she/he understands
- meet with individual committee members or the committee as a whole to discuss
- use this time to articulate responses to questions and justify responses

Mock Examination

- On the Candidacy Preparation Form the student and his/her supervisory committee can indicate the student will complete one or more mock examinations.
- the supervisory committee assigns a practice question, the student writes a response in a week, committee reads the response and student orally defends it (same process as the candidacy but on a smaller scale)
- this step is not required, but for many students it is recommended it is a great confidence booster, helps identify areas to improve, gives the student some idea of what to expect

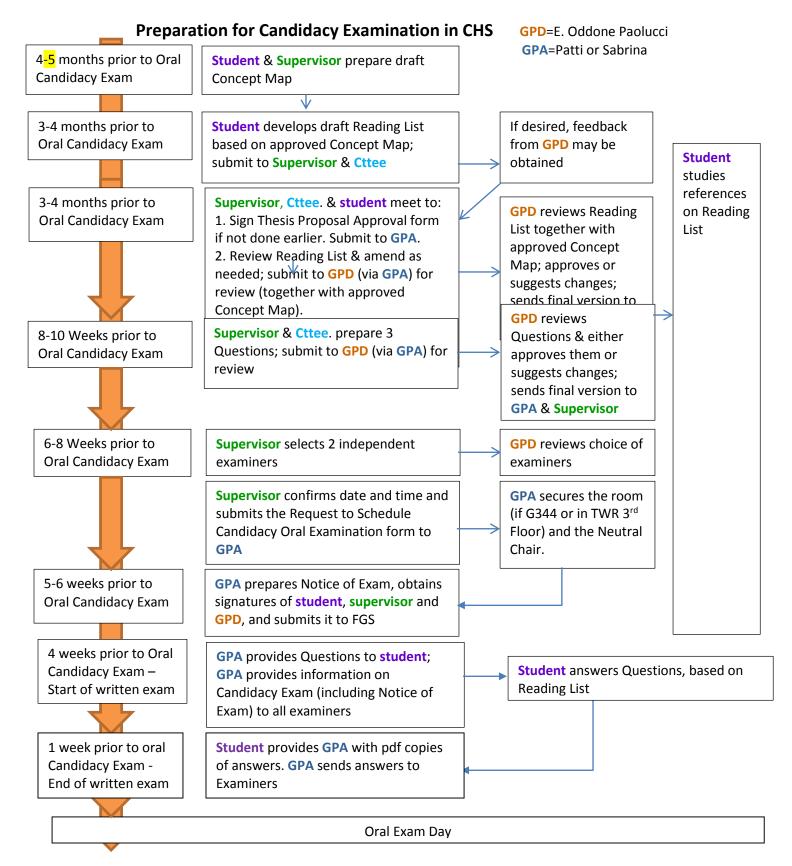
The Candidacy Examination

- the supervisory committee develops three questions which are approved by the Graduate Program Director
- the student answers the questions over a 3 week period
 - 1) the student must remember to pace him/herself; develop a plan for how much time he/she will spend outlining, writing and editing each response
 - 2) leave 2-3 days at the end for final polishing, last minute grammar/spelling checks
 - 3) this examination is not about searching the literature for an answer. Use the resources in the approved reading list.

Candidacy Examination Timeline

Goal of the CHS PhD Candidacy Examination is for the student to demonstrate:

- a. Expertise and depth of knowledge in specialization area
- b. An ability to think critically as well as synthesize and integrate knowledge
- c. Potential to conduct independent research



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Candidacy Preparation Form

Completed form must be submitted to the student's Graduate Program Administrator <u>a minimum of</u> <u>three (3)</u> months prior to the proposed Oral Candidacy Exam. The student must be present at the meeting.

Student's Name:	UCID #:
Graduate Program: MDCH	
Specialization:	Meeting Date:
Were all committee members present:	
If no, who was absent (and reason)?	

Discussion Checklist:

Student has completed all required courses for specialization

(Required course work must be completed prior to Candidacy, check with GPA for confirmation)

Thesis Proposal has been approved

(Approval must be obtained prior to the Notice of Candidacy Exam being prepared)

Concept Map outlining key study areas approved by Supervisory Committee

Final Reading List approved by Supervisory Committee

2 Independent Examiners (if known): Name:

Name:

Approximate date of Candidacy Exam:

(Final date should not be set until Concept Map and Reading list have been fully approved to ensure the student has a minimum of 3 months prior to the exam date to study the reading list and prepare for the exam)

Will a mock exam be provided for the student:

If no, what provisions have been made to prepare the student?





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Additional Notes on Meeting (may be appended):

Attached to form when submitted to GPA:

Concept Map Reading List Copy of minutes from meeting (optional) Thesis Proposal Approval Form (if thesis is approved)

I am aware of, and in agreement with, the arrangements and expectations of my upcoming candidacy exam.

Student Name (Print)	Student Signature	Date
Supervisor Name (Print)	Supervisor Signature	Date
Supervisory Committee Member (Print)	Supervisory Committee Signature	Date
Supervisory Committee Member (Print)	Supervisory Committee Signature	Date
Supervisory Committee Member (Print)	Supervisory Committee Signature	Date
Supervisory Committee Member (Print)	Supervisory Committee Signature	Date
Gradua	ate Science Education Office Use Only	
Date Received:	GPA's Signature:	

Graduate Program Director Approval:



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Candidacy Concept Map (Revised and Approved by GEC on April 15, 2014)

The Candidacy Examination is intended for the student to demonstrate expertise and depth of knowledge in specialization area, and the ability to think critically as well as synthesize and integrate knowledge. It should also assess the student's potential to conduct research independently.

On the attached form, provide a 1-2 sentence description for each candidacy area, and indicate how it addresses the competencies below. At least one competency must be addressed in each candidacy area. All competencies must be addressed.

Competency Descriptions

Competency One: Underlying Theories and Conceptual Frameworks

- What has emerged in these areas that help explain, predict, connect ideas?
- How is study in these areas framed?
- Are there elements of different underlying disciplines?

Competency Two: Methods/Methodology – Study of Methods

- What methods are most prevalent in these fields?
- Are there additional methods relevant to study in this area that the thesis does not focus on? Understanding these would provide the student with a broader base with which to move forward in his/her career.
- What are their strengths and weaknesses?
- Why have these methods developed (or been favored) and not others?
- How do the methods contribute to/hinder further understanding?

Competency Three: Research Context

- History and philosophy of the underlying science for this research area
- How did researchers arrive at tools and methods that are currently in use?
- Historically, who has influenced study in these areas and moved them forward?
- Are there multiple leaders in development of these fields? Have their ideas been divisive, homogenous or synergistic?
- Are there specific historic events that changed the direction or focus of studies, e.g. new legislation, new technology developments, political or social factors driving/hindering this research?
- What implications does your topic have for knowledge translation and exchange?



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Student Name:

Candidacy Area 1 (Must address Competency One: Underlying Theories and Conceptual Frameworks):

Check if area also addresses:

Competency Two: Methods/Methodology – Study of Methods

] Competency Three: Research Context

Candidacy Area 2 (Must address Competency Two: Methods/Methodology – Study of Methods):

Check if area also addresses:

Competency One: Underlying Theories and Conceptual Frameworks

Competency Three: Research Context

Candidacy Area 3 (Must address Competency Three: Research Context):

Check if area also addresses:

Competency One: Underlying Theories and Conceptual Frameworks

Competency Two: Methods/Methodology – Study of Methods

Thesis Proposal Title: