

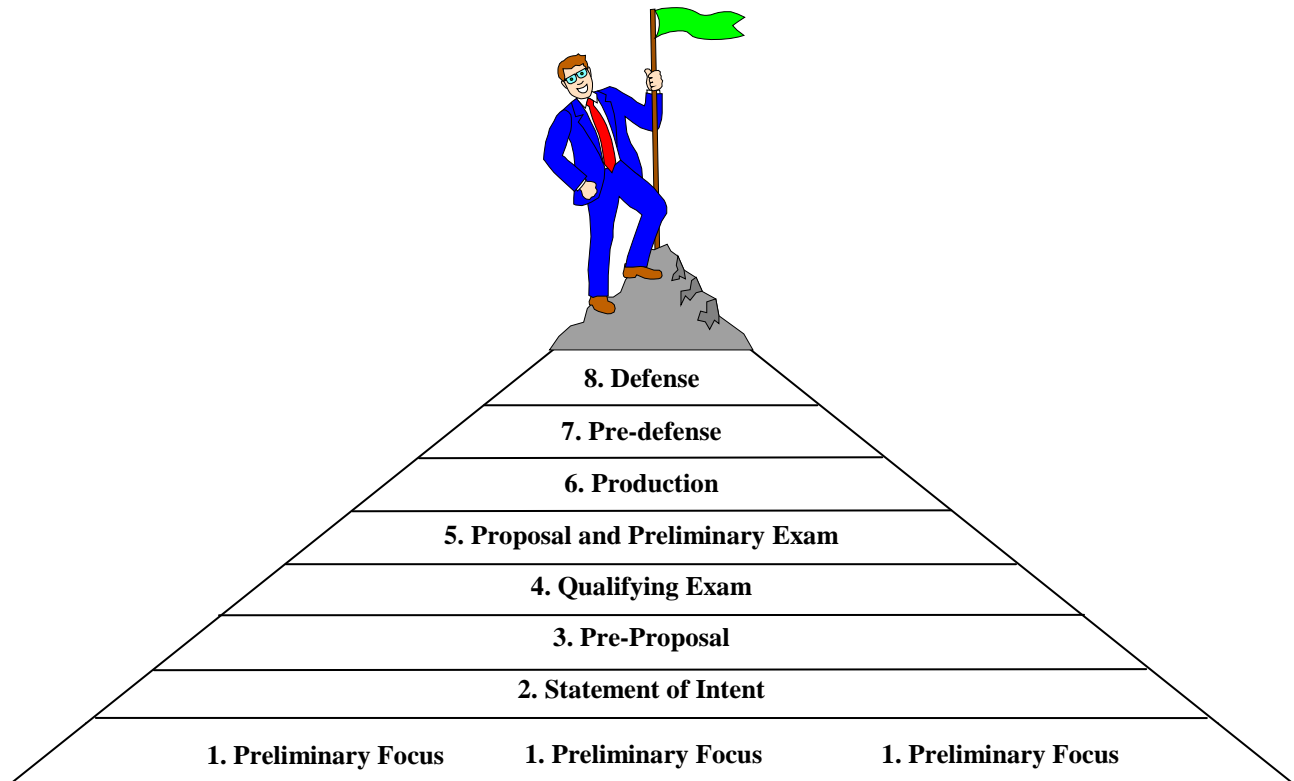
Vecellio Construction Engineering and Management Program



Construction Engineering & Management

The Ph.D. Process.

Revised: August 2012



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This document details the procedures used to progress from the early preliminary discussion of a possible Ph.D. topic to the final completion and examination of the Ph.D. dissertation. It serves as a guide for both faculty and students and provides a series of milestones which experience has shown to be important in an efficient and effective process.

1. Preliminary Focus.

The student meets with faculty to discuss and identify a focus area for the work. Courses are selected to provide knowledge needed to support work in the focus area. The faculty member likely to become the major professor is identified and a preliminary committee is formed.

- The focus area is discussed and agreed with the preliminary committee.
- The major professor is identified and confirmed.
- The student is asked to prepare a statement of intent.

**I would like to become a mountaineer.
Yes, that is a noble thing to do. Where would you like to climb?**

2. Statement of Intent.

The student performs the desk research necessary to become familiar with the literature and other work in the focus area. Coursework continues to emphasize knowledge relevant to the subject area. The major professor expands the preliminary committee to include members likely to become the final Ph.D. committee.

The student prepares a written statement of intent which is presented to the expanded committee.

- The statement of intent is discussed and agreed with the expanded committee, the student's plan of studies is reviewed and additional coursework, if any, is identified.
- The student's Ph.D. committee is selected and confirmed.
- The student is asked to prepare a pre-proposal.

**I have studied something about mountaineering.
The Himalayas look challenging, I would like to climb Everest.
Yes, that is a worthy goal. How would you go about it?**

3. Pre- Proposal.

The student completes the research needed to develop a pre-proposal. The document must include at least the following items:

- A statement of the proposed work.
- A preliminary bibliography (Point of Departure).
- A statement about the body of knowledge that will be affected.
- A statement describing the contribution to the body of knowledge.
- A review of other work and how the proposed work will be differentiated from other work.
- A description of the proposed research methodology, the data and the fieldwork required.

A formal presentation of the pre-proposal is made to the full Ph.D. committee who make a commitment to the area of study while still allowing significant flexibility to the focus of the work. The student's plan of studies is reviewed.

- The committee discusses and agrees the pre-proposal.
- The committee approves student's plan of study with three possible options, a) approved, b) approved, subject to the results of the qualifying exam, or, c) requiring specific additional coursework.
- The student is asked to undertake the qualifying exam.

**These are climbers who have a lot to say about climbing Everest.
This is what I would achieve, these are the risks and rewards.
Yes, that all looks in order, are you qualified to undertake the journey?**

4. Qualifying Examination

The qualifying examination consists of two parts both of which must be satisfactorily completed.

Part 1. Breadth. All Ph. D. students may be required to complete a one hour oral examination set by faculty in the Construction Engineering and Management Program to confirm their breadth of knowledge in construction Engineering and Management. The material covered will include all aspects of coursework completed by the student.

Part 2. Depth. The intent of this portion of the qualifying exam is to determine competence in the specific areas of study required for the proposed work. The exam is prepared by each member of the Ph.D. committee, is at the discretion of the committee members and can be oral, written, or a combination of both. Ideally, the responses to this exam will be incorporated in some way or another in the final dissertation.

The individual committee members report the results of the exam to the major professor. (An example memorandum and exam reporting form are given as attachments 1 and 2.)

Potential outcomes of the qualifying exam are as follows:

1. Acceptance of work done for both parts. The student may proceed.
2. Acceptance of the work done with recommendations for further study or further work. This does not require a retry at the qualifying exam but does require that a meeting is scheduled to review material and make changes in response to committee comments.
3. Review of the work done with a required retry at the qualifying exam. The date of the retry will be mutually agreed between the student and the committee. This would be the only possible retry; if a second failure is recorded, the student will be asked not to continue towards the Ph.D.

**Yes, I believe I have the ability to undertake the journey.
Yes we agree. Could you please develop a detailed plan for the expedition?**

5. Proposal and Preliminary Examination.

Upon satisfactory completion of the qualifying exam, the student will prepare a formal dissertation proposal and complete the preliminary exam. Defense of the proposal constitutes the Preliminary Examination, which is a Graduate School requirement and all Graduate School procedures must be followed. It is only after this milestone that the student officially becomes a "Ph.D. Candidate" since such record is registered in the student's transcript. The preliminary exam consists of a presentation and defense of the dissertation proposal and ensures that the student is sufficiently prepared to embark on the proposed work. In addition to all the material produces thus far, the proposal will include a detailed methodology to accomplish the research.

Potential outcomes of the preliminary exam are as follows:

1. Acceptance of the proposal with approval of the area of work. The student may proceed but is required to keep the committee members aware of significant changes in direction of the work. The student should also seek assistance from the committee members throughout the dissertation.
2. Acceptance of the proposal with recommendations for further study or further courses. This does not require a retry at the preliminary exam but does require that a meeting is scheduled to review changes made in response to committee comments.
3. Review of the proposal with a required retry at the preliminary exam. This would be the only possible retry. Fifteen (15) weeks must pass before a second examination. If a second failure is recorded, the student will be asked not to continue towards the Ph.D.

The student becomes a Ph.D. candidate after successful completion of the preliminary exam,

**Here are the detail plans for my expedition.
I know we will encounter some problems but I am confident it will be a success.
We agree, you have the ability, good luck, keep us informed, call if we can help.**

6. Production.

The student will now prepare the dissertation. Committee members will be kept informed on progress and direction of the work. When significant work has been reviewed by the major professor, the work will be submitted to committee members to solicit further comments.

Formal progress and update meetings with the committee will be arranged at least once per semester.

**We are making progress towards the summit.
We agree, keep going, good luck, call if we can help.**

7. Pre-defense.

After completion of the dissertation, the student will set a date for a pre-defense to present the work to the committee for review and comment.

The pre-defense gives the committee an opportunity to provide comment and final input to the student regarding work which must be done prior to the final examination.

- The student takes note of the comments made and incorporates these into the final document.
- A date is set for the final examination.

**I believe I have reached the summit.
We agree, but this will help the celebration.**

8. Final Examination.

After incorporation of the comments made in the pre-defense and completion of the dissertation, the student will take the final exam. This is a Graduate School requirement and all Graduate School procedures must be met. The final exam will consist of a presentation and defense of the work done for the dissertation. The presentation will provide a general overview of the primary issues and solutions encountered during the preparation of the dissertation and will give a clear statement of the contribution made to the specific body of knowledge.

Potential outcomes of the final exam are as follows:

1. The student passes with all members of the examining committee accepting the work as is or, if necessary, with minor changes. One dissenting vote is permitted.
2. The student achieves a conditional pass with recommendations made to improve the work in identified areas. The corrective work required typically will take three to fifteen working days after which the student will pass.
3. The student fails when more than one member of the examining committee rejects the work. The time restriction and one further retry are similar to those for the qualifying exam.

It should be noted that the student is required to present the final dissertation with all signatures within two weeks after completion of the final exam. If the work needed to complete minor changes will extend beyond this time, an extension can be requested at the discretion of the major professor. A formal request for an extension in time must be filed with the Graduate School prior to final submission.

**I am on top of the world.
We all agree. Congratulations.**

Example of Memorandum to Qualifying Exam

MEMORANDUM

TO: Committee Member 1.
Committee Member 2.
Committee Member 3.
Committee Member 4.

FROM: Major Professor

DATE: ??/??/??

SUBJECT: Qualifying Exam for Student X

Student X has significantly completed his required coursework towards a Ph.D. from the Construction Engineering and Management Program in the Department of Civil and Environmental Engineering. Student X presented his pre-proposal on ??/??/?? to the committee.

I have asked Student X to contact each of you so that you may prepare a Qualifying Exam within the context area of the dissertation pre-proposal as it applies to your area/areas of specialization. The Qualifying Exam, its format, and its content is up to you and can be oral, written or both as you see fit. I will need the result of the Qualifying Exam by ??/??/?. Please fill out the attached Qualifying Exam form and send it to me.

Attachment

QUALIFYING EXAM

**The Charles E. Via, Jr. Department of Civil and Environmental Engineering.
Virginia Polytechnic Institute & State University**

Construction Engineering and Management

This form is to be used to record the results of the Qualifying Exam.

Student Name

Qualifying Exam Submission Date

Exam results - Pass/Fail

Signature

Date

Vecellio Construction Engineering and Management PhD Program Graduation Checklist

Milestones

1. Statement of Intent, Plan of Study & Committee Formation (Half-way through the semester in which the student will complete 15 credit hours of class credit that count towards the Plan of Study – typically the second semester)

- The written Statement of Intent is discussed with and agreed upon by the proposed committee
- Signed document containing the Plan of Study and committee members is turned into CEE Rep.

2. Pre-Proposal (Typically during second year)

- Written Pre-Proposal is approved by the committee.
- Formal presentation of Pre-Proposal is given to committee and Plan of Study is reviewed
- Committee modifies or formally approves the Plan of Study

3. Qualifying Examination (Typically during second year)

- Part 1 – Breadth – One-hour oral exam covering completed coursework
- Part 2 – Depth – Oral, written or mixed exam to determine competency in the area of study

4. Dissertation Proposal & Preliminary Examination (Nearing the end of coursework – typically the end of the second year)

- A written, formal Dissertation Proposal is submitted to the committee
- Must be registered for classes during semester of Preliminary Examination
- Print form
(http://graduateschool.vt.edu/forms/academics/Request_to_Admit_Candidate_to_Prelim_Exam.pdf) 3 weeks before defense.
- Form must be signed by committee and then by CEE Rep.
- Form must be submitted to the graduate school at least 2 weeks before the requested exam date
- Preliminary Examination consisting of a defense of the Dissertation Proposal is held

5. Pre-defense (During final year)

- Completed dissertation, in conformance with the standard template
(<http://graduateschool.vt.edu/forms/academics/ETD/MSWord-title%20and%20abstract%20template.doc>), is submitted to committee and a Pre-defense date is set
- Pre-defense is conducted and a date for the Final Examination is chosen on one of the designated “D-Days”

6. Application for Degree (Early in final semester)

- Electronic form submitted from Hokie SPA

7. Final Examination & ETD Submittal (Final Semester)

- Must be registered for classes or DSS status during semester of Final Examination
- If participation in commencement is desired, the Final Examination must be scheduled before the stated deadline
- Final draft of dissertation is submitted to committee for review
- Print form
(http://graduateschool.vt.edu/forms/academics/Request_to_Admit_Candidate_to_Final_Exam.pdf) 3 weeks before defense.
- Form must be signed by committee and then by CEE Rep.
- Form must be submitted to the graduate school at least 2 weeks before the requested exam date
- Dissertation corrections, ETD approval form (http://graduateschool.vt.edu/forms/academics/ETD/Thesis_Dissertation_Approval.pdf), and ETD upload (<https://scholar.lib.vt.edu/ETD-db/ETD-submit/login>) are due 2 weeks after defense.

Other Details

Progress Reports:

- Before completion of Dissertation Proposal, progress reports to the committee are written every Spring
- After completion of Dissertation Proposal, progress reports to the committee are written every semester

Requirements for the Plan of Study:

- 90 credits total
- Minimum of 27 credits of 5000 level or higher coursework
- 30-63 credits of research (7994)
- Maximum of 6 credits of 4000 level coursework
- Maximum of 50% of total coursework may be transferred from an MS program
- All courses must be taken on a letter grade (A-F) basis except where only P/F is offered

Requirements for the PhD committee:

- Minimum of 4 members total
- Minimum of 2 members who are full-time, tenure track or tenured professors in CE
- It is expected that 1 member is from outside of CE
- No more than 1/3 of the committee may be from outside of VT faculty

Requirements for Pre-Proposal:

- A statement of the proposed work
- A preliminary bibliography
- A statement about the body of knowledge that will be affected
- A statement describing the contribution to the body of knowledge
- A review of other work and how the proposed work will be different from other work
- A description of the proposed research methodology, the data and the fieldwork required

Notes:

- Qualifying, Preliminary and Final Examinations may each be retried only once
- Preliminary and Final Examinations may be retried only after 15 weeks since first attempt
- Preliminary Examination must be successfully completed at least 6 months before the PhD candidate is allowed to graduate
- ETD Submission Process (<http://etd.vt.edu/etdsbmn.html>)

Keeping it Simple:

	1	2	3	4	5	6	7
Stage	Statement of Intent / Plan of Studies	Pre-proposal / Plan of Studies	Qualifier Exam	Preliminary Exam Proposal /Plan of Studies	Progress Meetings	Pre-Defense	Defense
Deliverable	< ~5 Pages	< ~15 Pages	Oral / Written Questions from Ph.D. Committee	< ~30 Pages		Draft of Dissertation	Draft of Dissertation
Focus	General Topic you want to study	Methodology Literature Review		Methodology	What has been done? Modifications to: objectives/scope/methods	Does committee feel that goals were achieved	This is it.
Focus	What Why	What (refined) Why (refined) Who (literature review)		What (refined) Why (refined) Who (refined) How	Partial Results	Contributions to BOK	Contributions to BOK
Committee	Temp. Committee	Ph.D. Committee	Ph.D. Committee	Ph.D. Committee	Most of Ph.D. Committee	Ph.D. Committee	Ph.D. Committee
Forum	Meeting	Meeting		Meeting	Meetings	Meeting	Meeting

“...We don’t inspect quality, we build in quality...”