
PhD Dissertation Guidelines

Doctoral program milestone requirements, formation of PhD committees, dissertation proposal and development

Introduction

Study towards completion of a doctoral dissertation in the Epidemiology Department is accomplished through the completion of didactic coursework, guided independent study, and completion of a dissertation. Despite required coursework, the focus of doctoral training places a heavier emphasis on the dissertation and the development of independent skills in research and/or practice.

Students typically begin study in the doctoral program with 1-2 years of focus on the completion of major elements of coursework. At this time, students, in consultation with their primary advisor, can also begin discussions on research/practice interests and goals that may be pursued in a dissertation proposal. Students also may become engaged in faculty research projects.

Upon completion of the primary coursework requirements, students (in consultation with their primary advisor) should look to register and complete the Preliminary Exam as the first of 4 total milestone exams including the Overview, Comprehensive, and Dissertation Defense.

NOTE: Student operational procedures related to these milestone exams and other PhD academic and experiential requirements may be reviewed in the **PhD Degree Overview** section of the Student Handbook.

Preliminary examination

The Preliminary Exam, typically taken at the end of the second year of coursework by those pursuing the Full PhD Sequence, and after the first two terms of coursework by students pursuing the Accelerated PhD Sequence, consists of three written exams:

- General Epidemiology: a 3-hour in-class closed-book exam.
- Biostatistics: a 4-hour open-book and open-note exam that is typically administered and proctored in a computer laboratory.
- Applied Epidemiology: a 4-hour closed-book exam that is also typically administered and proctored in a computer laboratory.

Collectively, the exams are designed to assess a student's ability to demonstrate and apply fundamental principles of epidemiology and biostatistics, to think critically about epidemiologic methods and reasoning and to synthesize epidemiology and biostatistics concepts as applied in a research proposal. This evaluation is used to identify students with the potential to complete doctoral research successfully, and to also reveal areas of weakness in the student's preparation.

PhD students are required to **pass all three parts of the exam within two attempts** before the student can form a doctoral dissertation committee.

If a student fails an exam a second time, a third attempt will be considered only in exceptional circumstances with the approval of the Epidemiology Department chair. Students should meet with their academic advisors to discuss if and how they should request this final re-take.

Students who do not pass all sections this final time will be discontinued from the PhD program. It may be suggested by a student's advisor that s/he apply for and complete an MPH or MS program depending upon the individual's academic background and career goals. Students may also want to discuss this decision with the doctoral program director, Dr. Tina Costacou, costacout@edc.pitt.edu.

The Preliminary Exams are offered in June every year. To register for the exam, students must request permission from their advisor, who is then asked to email the Preliminary Exam committee chair for approval and confirmation.

Students should have completed the following courses before sitting for the preliminary examinations:

- EPIDEM 2110: Principles of Epidemiology
- EPIDEM 2180: Fundamentals of Epidemiological Methods
- BIOST 2041: Introduction to Statistical Methods
- BIOST 2049: Applied Regression Analysis

Although additional courses are not required, students who have completed the following have performed better on the exams than those who did not:

- EPIDEM 3183: Reading, Analyzing and Interpreting Public Health Medical Literature
- EPIDEM 2181: Design and Conduct of Clinical Trials
- Any course that involves critiquing epidemiologic literature

A Report on Requirements (R on R) for Doctoral Degree form must be completed after exam administration as a record of overview proposal approval or disapproval. A form indicating each student's exam results is prepared and circulated electronically by an Epidemiology student services specialist for doctoral degree programs for departmental retention, and shared with the school-wide Student Affairs Office.

Conceptualizing a dissertation proposal

Upon successful completion of the Preliminary Exam, students may formally begin to work on a dissertation proposal. This work will begin in consultation with the primary faculty advisor and the identification of an appropriate dissertation topic.

The dissertation is a written document that presents the results of a research project carried out by the student. An appropriate research project involves a substantive piece of original and independent research grounded in an appropriate body of literature. All dissertation projects should present a hypothesis tested by data and analysis and provide a significant contribution or advancement in the chosen area of study.

A good dissertation provides the student with an area of concentration that is the "spring board" for their career. The dissertation should advance knowledge and answer one or more important questions, but it should also raise more questions, thus providing the impetus for further research. A good dissertation ties together didactic coursework and allows the student to see how research is accomplished. The dissertation is an important step in training the student to ask good questions as well as learning how to go about answering them. If the process works as it should, the committee learns from the experience as well as the trainee.

Dissertation formats

Students may identify and prepare a dissertation proposal following one of two formats:

- **Traditional format:** In the traditional format, students prepare a dissertation proposal to describe the background, methods, results, and interpretation of one research project. The written dissertation document should include an introduction, a meaningful literature review, a clear presentation of the methods and results of the project, and an appropriate discussion of the meaning of the results.

The introduction of the dissertation should outline the public health significance of the topic area under investigation in the dissertation, and identify the key research objectives. A meaningful literature review should identify the historical context for the dissertation research project, an analysis and synthesis of a broad literature base, and the summation of existing knowledge and areas of research opportunity in the chosen field of study. A clear presentation of the methods should identify the chosen study design, study population, methods for key research variables, and proposed methods of analysis. The results should outline key research findings, and the discussion should interpret the meaning of these results to the field of study, discuss the public health significance of the results, and identify areas for future study.

- **Three Paper format:** In the three-paper format, students prepare a dissertation proposal focused on the development of three research papers addressing original research in a chosen topic area. The papers should be of publishable quality in appropriate journals in the field of study. This format of the dissertation proposal has the advantage of ensuring that the substantial work done by both the trainee and the dissertation committee can become part of the published literature.

In the three-paper option, the written dissertation proposal should have a theme to which all three papers contribute. The written document should also include the relevant background to the dissertation work in a format which demonstrates the students' knowledge of the topic area, the results of the work accomplished by the student (presented in the document as the three individual research papers), and a general discussion of the meaning of the work.

- **Written dissertations in Three Paper format may consider the outline below.** However, it should be noted that this is at the discretion of the primary advisor and dissertation committee.
 - **Introduction and Background:** The introduction of the written dissertation should outline the theme of the dissertation, and identify the key research objectives. The background should identify the historical context for the dissertation research, and provide a succinct analysis and synthesis of the literature base in the topic area. The background should also address the manner in which the dissertation represents original research. Consider that the written background is often an abridged version of the literature and is not a complete review as exemplified in a traditional dissertation. Bear in mind, however, that the student will need to do a substantial literature review in order to understand the research in the topic area and argue for how the proposed dissertation project attends to a "hole" in the literature, and why the proposed research objectives are relevant. The student must be able to distill a large body of literature into a concise rationale for the proposed research.
 - **Three Projects:** Each project should be presented as a manuscript with a short paragraph introducing how the project relates to the dissertation.
 - **General Discussion:** A concluding discussion section should be presented to summarize and discuss the results of the three projects and their place in the literature. Because the three projects each contain a discussion section, the purpose of this summary is to synthesize the results of the three papers as a whole (rather than individually) and to articulate the contribution of the dissertation research in this field.

- **Summary:** The summary should also discuss how the work completed is important in the context of public health (i.e. the public health significance of the research findings), and discuss the overall strengths and weaknesses of the dissertation research. Most presentations also identify the logical 'next research questions' raised by the research, provide a final conclusion derived from the completed dissertation work.

Acceptable dissertation criteria (any format)

In a successful dissertation project, the trainee should demonstrate mastery of a chosen research topic area, including application of that knowledge in conducting original research on the topic. This requires that the trainee takes "ownership" of the dissertation work, demonstrated through initiation of the project, oversight of data collection and/or data management, data analysis, and research result interpretation. This work is largely completed by the trainee, but involves active guidance from the dissertation committee.

- Examples of original research include, but are not limited to:
 - Primary data collection – the student collects new data to address a research question in a sole dissertation project, or identifies data (with appropriate methods) that should be added to the methods of an existing research study.
 - Novel approaches to secondary data – the student applies a new analytic technique or makes novel use of an existing technique.
 - Development of a new research protocol or way of collecting data.
 - Execution of additional laboratory assays or genetic evaluation of existing samples.

Creation/Approval of faculty doctoral committees – prior to subsequent milestone exam administration

In the dissertation process, after all three sections of the Preliminary Exam are passed, students should confer with their advisors to form a faculty committee to review and oversee the work necessary for completion of each required milestone exam to follow – the **Overview**, the **Comprehensive**, and the **Dissertation Defense**. The Overview, Comprehensive, and Dissertation Defense Committee should be approved to ensure it complies with University composition policy.

Typically, the student advisor also assumes the faculty committee chair role, although this is not required. Exceptions to this protocol should be discussed by the advisor and the student. If the research advisor and the academic advisor are not the same person, the research advisor should become the chair, provided s/he meets the qualifications identified in University, school, and departmental policy for this role.

- This committee is typically composed of the same faculty members for all three exams. Committee members are identified based upon the expertise and consultation that they can bring to an individual dissertation proposal.
- Advisors should review the school committee guidelines when considering membership of the committee for these exams. If the student's work involves data, policies, or experiences from an outside agency, organization, or practicum site, they should ensure that they follow the guidelines that may include a requirement to have a member of the agency, organization, or site on their committee.
NOTE: Any student who will use data or experiences from an experience at the Allegheny County Health Department (ACHD) must include their ACHD preceptor as a member of his/her committee. The agencies with which these members are associated should be identified in the committee approval e-

mail that must be drafted by the proposed committee chair.

Initiating the committee approval process:

- In formally designating a committee, the student's academic advisor (typically the dissertation committee chair) should discuss membership selection with the student, then forward an e-mail to the Student Services Manager and Program Administrator for the Department of Epidemiology, Lori Smith smithl@pitt.edu.
 - **The following Overview, Comprehensive, and Dissertation Defense Committee composition criteria must be met:**
 - The committee must consist of at least four University of Pittsburgh faculty members.
 - At least two members must be on the [core faculty list](#) of some Pitt Public Health department.
 - The majority of members must have [graduate faculty status](#).
 - One of the Pitt faculty on the committee must not be on the core list from the student's department.

NOTE: If dissertation work integrates data and policies from the Allegheny County Health Department the committee must include a staff/faculty member from the Allegheny County Health Department. If the individual is an adjunct faculty member, they count as a faculty member. If they do not hold an adjunct appointment, they must be added in addition to all faculty on the committee.

More committee details can be found under [Part IV: Detailed policies and references](#).

- The e-mail should identify the proposed committee members (their titles, primary or secondary appointments and affiliations, references to having University Graduate Faculty Status and/or Epidemiology Core Faculty Status, and the committee chair).
- This should be identified in the Subject line: *PhD Committee approval request*.
- Members must be approved by the Student Services manager and the doctoral program director on behalf of the department chair. The proposed committee list is next forwarded to a designated Pitt Public Health Student Affairs staff member for additional approval.
- When final approval for the committee is obtained, the Student Services Manager will e-mail committee chairs and their students to notify them that the committee has been approved at all required levels.

Proceeding after committee approval:

- After the committee is formed, it is recommended that the student and committee members meet on an ongoing basis to discuss the next milestone exam to be taken

NOTE: Exams are administered in-person, unless there is a critical need to administer remotely. Administering the exam remotely requires the approval of the committee chair.

- Additional working meetings of the committee should be considered throughout the dissertation process, particularly between the Comprehensive exam and Final Defense to ensure that the Final Defense goes smoothly. If the trainee is working closely with all committee members throughout the process, then additional, in-person, committee meetings may not be necessary.

Overview Exam

All Doctoral candidates must have their dissertation topic and outline of proposed research approved by their doctoral committee. The Overview Meeting is the first official meeting of students with their doctoral committees, and may or may not be combined with the Comprehensive Exam.

The student should present the dissertation topic and research plan. The meeting should allow for the committee members to provide guidance in the conceptualization and methodology of the plan.

Eligibility

- Preliminary Exam must have been passed.
- The doctoral committee for the Overview must be formed and approved.
- A general area for the dissertation must have been chosen.
- A basic literature review for the chosen area should be completed.
- Academic advisor must agree that the student is ready for this exam.

Minimum required written material submitted to the approved Overview, Comprehensive, and Dissertation Defense Committee two weeks before the Overview includes:

- A basic literature review to demonstrate how the proposed research fills a void in the existing literature in the topic area.
- Suggested dissertation aims, hypothesis, and methods to be discussed and finalized with the dissertation committee.

Exam parameters

- Oral format.
- A basic literature review should be submitted to the committee to demonstrate how the proposed research fills a void in the existing literature in the topic area.
- Relationship of student project to ongoing departmental projects (if any) must be explained.
- Data may be included in this exam, but is not required. Where applicable, the use of data to demonstrate feasibility or support for proposed evaluations is encouraged.
- Proposal may be to carry out research elsewhere under direct supervision of person selected by dissertation committee, under special circumstances. This alternative should be discussed with committee chairperson prior to proposal presentation.

The committee should assess:

- If the student has the skills necessary to move forward with the proposed work.
- If the dissertation topic is feasible and is relevant to the topic area.
- If the proposed research plan is appropriate to address the specific aims.

Overview proposal approval & reporting

- Students obtaining Overview approval are not yet admitted to candidacy for the doctoral degree, but have made progress towards that goal.
- Students not obtaining Overview approval will receive written comments regarding this assessment from their dissertation committee, including suggestions and/or recommendations for action(s) prior to scheduling a second Overview Exam.
 - If the second attempt to pass the Overview Exam is not successful, students will be unable to continue their current pursuit of a doctoral degree within the department.
- A **Report on Requirements (R on R) for Doctoral Degree form** must be completed after exam administration as a record of overview proposal approval or disapproval.
- Contact the Student Services Manager and Program Administrator concerning processing and submission of the form, which may be downloaded from the [Pitt Public Health Web site](#).

Comprehensive Exam

During the Comprehensive exams, students must present material to demonstrate mastery of the general topic of study and depth and breadth of knowledge in the area of specialization in that topic area. They must also show the ability to use the research methods of epidemiology appropriately for the dissertation plan.

Eligibility

Students must have:

- Passed their Preliminary Exam
- Obtained Dissertation Overview approval
 - Comprehensive Exams may be combined with Dissertation Overview or Prospectus Meetings at committee chair discretion
- Registered in the term in which the exam is given
- Exam cannot be taken in the same term in which graduation will occur

Minimum required written material submitted to the Dissertation Committee at least two weeks before the Comprehensive Exams include:

- A completed literature review addressing strengths and weaknesses of the topic area and identifying gaps in knowledge.
- Dissertation aims, hypothesis, and how they address gaps in knowledge in the topic area.

Exam parameters

- Exam is oral.
- Focus is primarily on student knowledge in the area of the dissertation topic.
- The literature review in the Comprehensive Exam should address strengths and weaknesses of the topic area and identify gaps in knowledge in this topic area.
- If a systematic review is performed, it may count as one of the three papers in the 3-paper dissertation format, provided that it is of publishable quality.

The committee should assess:

- If the student has shown a mastery of knowledge of the important concepts in the general topic area and the area of specialization of the research plan.
- If the student has a fundamental understanding of the strengths and weaknesses of the methods in the research plan.

Exams results & reporting

- Results must be reported to the Pitt Public Health Assistant Dean for Student Affairs' office no later than the last day of the term in which the exam is administered.
- A Report on Requirements (R on R) for Doctoral Degree form must be completed and submitted as a record indicating that the Comprehensive Exam as passed or failed.
- Contact the Student Services Manager and Program Administrator concerning processing and submission of the form, which may be downloaded from the [Pitt Public Health Web site](#).

Admission to candidacy

Admission to candidacy for the doctoral degree represents student promotion to the most advanced level of graduate study, and provides formal approval to devote exclusive attention to dissertation research and writing.

Candidacy prerequisites

- Full (not provisional) graduate status
- Preliminary Exam passage
- Successful dissertation Overview meeting
 - Approval of dissertation proposal
- Comprehensive Exam passage
- Formal course work completion with minimum 3.0 grade point average

Candidacy approval and reporting

- A Report on Requirements (R on R) for Doctoral Degree form must be completed and submitted as a record indicating that candidacy status has been attained.
- **NOTE:** Candidacy status may also be indicated on the Report on Requirements for Doctoral Degree form completed to record passing of the Comprehensive Exam, if the student has qualified for this status at that time.
- Contact the Student Services Manager and Program Administrator concerning processing and submission of the form, which may be downloaded from the Pitt Public Health Web site.

Dissertation Defense

Students should confirm readiness to defend their dissertations by conferring with their advisors and committees. If approval is obtained, they should schedule a meeting with the Student Services Manager and Program Administrator, Lori Smith smithl@pitt.edu to discuss defense and graduation preparations and requirements.

Doctoral candidates will present the completed dissertation project and defend the validity of the work under examination from the committee members. They should present results of the dissertation and a discussion of the meaning of these results in the topic area of study.

Defenses should be scheduled on-site at Pitt Public Health, or at another University space acceptable to the student and his/her committee. The Student Services staff can help with space reservations in the school building

If circumstances occur that make on-site participation by the committee and the student difficult or impossible, this should be discussed by the student, his/her advisor/committee chair, the research mentor (if a different person than the advisor) and the other committee members. It may be decided that a virtual defense is acceptable. In that case, the Student Services manager and program administrator, Lori Smith, will share information with the student concerning virtual defense operational protocols.

Eligibility

- Preliminary Exam passed
- Dissertation Overview approved
- Comprehensive Exam passed
- Admission to candidacy attained

Defense timeframe

- Defense may be scheduled not earlier than two weeks following submission of the dissertation.
- Defense must be held at least two weeks before:
 - End of the term of graduation
 - Degrees are awarded

Student requirements, and deadlines

- Submit final dissertation drafts to their committees at least two weeks prior to the defense date.
- Schedule a meeting with the Student Services Manager to discuss defending and graduation.
- Refer to the [Pitt Public Health Graduation Webpage](#) for additional details concerning forms to be submitted, deadlines, etc.
- Students should take note of all defense and graduation information provided, and formulate a plan for addressing all requirements within the stated timeframes. Failure to do so may result in inability to graduate in the desired academic term.

Defense / exam results and reporting

- A **Report on Requirements (R on R) for Doctoral Degree form** must be completed after exam administration as a record that the Dissertation Defense was passed or failed.
- Contact the Student Services Manager and Program Administrator concerning processing and submission of the form, which may be downloaded from the [Pitt Public Health Web site](#).

Timing of Overview, Comprehensive, and Dissertation Defense exams

The timing of these exams is at the discretion of the dissertation committee chair in consultation with the committee members.

The Overview and Comprehensive milestones may be held at separate dates, or may be held on the same date. However, if these exams are administered on the same date at the same sitting, each must be considered and rated distinctly and individually as part of the committee review of the student's progress.

The Comprehensive and Final Defense cannot occur in the same term.

It is important to realize that dissertation work does not always fit a set schedule. The successful doctoral candidate is one who realizes that research does not always go according to plan and deadlines are secondary to accomplishing what is required of a dissertation.

Conduct of Overview, Comprehensive, and Dissertation Defense exams

Milestone exams should be scheduled on-site or virtually, with consensus of the committee members. The [Pitt Public Health Graduation Website](#) includes information and tips students and committee

members may find helpful in creating and navigating virtual meetings. Questions about defending virtually should be discussed with the advisor and committee chair (if these are two different individuals).

- **Overview and Comprehensive Exams:** At the beginning of the exam, when all committee members have convened, the chair asks the student to leave the room for a few minutes. At this time, the chair provides a brief description of the student's strengths and weaknesses. It is important for the chair to be honest with any concerns that he or she has. This is the chance for the chair to get opinions and suggestions from other committee members. The chair may wish to bring along the student's school record which can be signed out from the Student Services office. Permission for this is granted only to the chair of the committee. When this review is completed, the student is invited back into the room and the exam begins.

In the exam, the student delivers a presentation that has been prepared in consultation with his or her dissertation committee chair. While the length of the presentation will vary, most presentations involve 30-45 slides, followed by a discussion. It is important to realize that sufficient time must be left for discussion.

After all questions and discussion has taken place, the chair will again ask the student to leave the room. The committee will discuss the performance of the student during the exam and settle on a decision regarding the pass or fail status of the individual.

The student is then invited back to the room and informed of the outcome of the exam.

The committee chair should inform the student services manager and program administrator if the Overview of Comprehensive Exam was passed or failed, so appropriate follow up with the student and the committee can be initiated, and additional advisement concerning administrative next steps can be provided.

- **Final Defense:** As the Final Defense is advertised and open to the public, it is recommended that the meeting begin with an open session. Members of the public and University community are invited, as well as committee members. Questions may be given to the doctoral candidate from committee members during the presentation. However, it is recommended that committee members should consider only questions required for clarification at this point. After the presentation, the chair should invite questions from the public.

When the public question and answer period is finished, the chair should declare that the public session is complete, and begin the closed session of the final defense meeting. **The closed session should include only committee members and the candidate.** It is conducted to allow sufficient time for the evaluation of the parameters of the final defense. Committee members may ask additional questions at this time. When discussion is complete, the chair asks the candidate to leave again, and the committee privately discusses their decision. Recommendations on how to address weaknesses are provided to the chair who relays the comments to the candidate. Committee members are encouraged to provide input directly to the candidate as well.

A closed session of the doctoral committee (without the candidate) should then be conducted. The committee should arrive at a decision on the results of the exam based upon material and discussion provided in both the open and closed sessions. The candidate is eventually invited back to the room and informed of the outcome of the exam.

Dissertation edit requests: Often, even with the best planning, there is work that must still be done after the Final Defense. If committee members indicate that final changes to the dissertation should be made, they do not sign required exam documentation until they have seen and approved those changes. It is not uncommon for committee members to defer the decision about whether minor issues have been adequately addressed to the dissertation committee chair and they may sign the form conditional on the

chair's future approval. However, any committee member has the right to see all changes and agree to them before signing off.

The committee chair should inform the student services manager and program administrator if the Dissertation Defense was passed or failed, so appropriate follow up with the student and the committee can be initiated, and additional advisement concerning administrative next steps can be provided.

Failing an Exam

If the committee indicates that the student/candidate was not successful for a given exam, then the committee must identify areas of deficiency and outline criteria necessary for successful completion of the milestone. Both issues must be explained to the student. Failure of a milestone exam is often an infrequent occurrence, because the dissertation chair should have a reasonable sense of where the student/candidate is and should make sure that the student/candidate is adequately prepared for a given exam before it is scheduled. However, there may be times when an important gap is discovered during the exam and the committee members are not comfortable passing a student/candidate, until the identified issues are addressed.

Authorship of research papers from the dissertation

Committee members are often included as authors on the papers produced from the dissertation work, but this is not a requirement. The primary dissertation advisor and trainee should make this decision and it should be based on the degree to which a given committee member influenced or contributed to each paper. In deciding authorship, the primary dissertation advisor and trainee may consult the authorship guidelines published by the [International Committee of Medical Journal Editors](#).

It is recommended that the primary advisor and trainee decide on an action plan for papers that are unpublished at the time of graduation. Time limits should be considered so that papers are not held up if the graduate does not submit papers following graduation. For example, the advisor and trainee may decide that if the work is not submitted for publication within 6 months of graduation, the materials will be turned over to the advisor so that the advisor can move forward with the publication.

Copyright

Copyright notice and registration are optional for all dissertations. Information on the format and guidelines for electronic dissertation preparation can be found at: [ETDformat.pdf \(pitt.edu\)](#).

Options when the doctoral student is not performing at an expected level on exams or research progress is insufficient

There are several critical points at which the primary advisor needs to be confident that the trainee is capable before allowing him or her to move forward. An astute advisor will follow the progress of the trainee at several points, including the four milestone exams, as well as performance in coursework, and research progress. If a student is not making sufficient progress in these areas, the advisor should consult with the doctoral program director and the vice-chair for education, and also review the Pitt Public Health Probation and Dismissal Guidelines (on the [Pitt Public Health website](#)) for guidance.

In some circumstances, insufficient progress in research may lie in scenarios where the interests of the trainee and the interests of the primary advisor are not well matched. The option of switching advisors

can be raised at this time. In this situation, the student is given the responsibility of identifying an alternate advisor. If the faculty member accepts, then an advisor change form is completed. In other circumstances, students may fail milestone exams due to clear and unamenable deficiencies. In these situations, the option of completing a master's thesis can be discussed with the student.

A failing score on the final defense milestone exam is a serious concern. Thus, all committee members should be reasonably comfortable with the candidate's progress before allowing the defense to be scheduled. Candidates must realize that their dissertation work represents a substantial investment of time on the part of the committee chair and other committee members. Thus, the scheduling of the Final Defense is a commitment that should not be taken lightly. If the candidate insists on going forward without the recommendation of their advisor, the likelihood of failure is a real possibility.