OHSU-PSU School of Public Health

PhD in Epidemiology

Program Guide and Degree Requirements 2019-2020

OHSU-PSU School of Public Health
2019-2020 Program Guide and Degree Requirements for
PhD Students in Epidemiology

Information in this document is updated annually. Please refer to the document for the year you entered the PhD program, as the degree requirements listed herein are your programmatic contract.

Student resources, policies, and procedures applicable to all School of Public Health graduate students can be found on the SPH website, at www.ohsu-psu-sph.org.

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PhD Program in Epidemiology

Program Objectives and Competencies

Epidemiology is the study of the distribution and determinants of disease frequency in human populations. It is a fundamental science of public health and medicine enabling estimation of disease burden, assessment of risk and resilience factors, and assessment of interventions to reduce disease burden over time. Epidemiology requires a foundation of coursework in epidemiologic methods, biostatistical analysis, and public health disciplines. Epidemiologists with doctorates focus on the causes and prevention of disease in human populations, as well as methods to advance epidemiologic research.

Objectives

Graduates of the OHSU-PSU School of Public Health PhD Program in Epidemiology will acquire the advanced quantitative and analytical skills needed to conduct innovative independent research that advances knowledge of the etiology, prevention, and amelioration of human disease. They will be prepared for positions as scientists in a wide range of public health settings, including universities, federal and state agencies, business, and industry.

Program Competencies

Students in the PhD in Epidemiology program will master the following competencies by graduation, as evident through their demonstrated ability to:

- Apply population-based concepts of chronic and infectious disease epidemiology within appropriate biological, pathophysiological, social, and community contexts
- Apply methods for collecting, evaluating, and synthesizing existing evidence of health determinants to research on public health problems.
- Apply appropriate data quality assurance and statistical methods for the research questions and study designs used in epidemiologic research.
- Formulate a testable hypothesis and propose a related study design and analytic approach that have the potential for advancing knowledge of the determinants of health and disease.
- Apply ethical principles to problems that arise in epidemiologic research and practice.
- Evaluate scientific, cultural, and political issues on epidemiologic research, including research goals, recruitment of study participants, and communication of results in the appropriate contexts.
- Demonstrate excellent verbal and communication skills in teaching epidemiologic principles and concepts at appropriate levels to different audiences.

Leadership and Advising

Program Director

The Director of the PhD Program in Epidemiology is the point of contact regarding rules, procedures and policies, leaves of absence, complaints, student progress and any other administrative matters. The Program Director reviews curriculum, monitors student progress, maintains records for accreditation, and addresses any programmatic issues with other core faculty.

Faculty Advisor

Upon acceptance into the PhD program, each student is assigned to an epidemiology faculty advisor who serves as the student's academic advisor. Sometimes faculty advisors are also referred to as faculty mentors because advisors often fill both roles. For purposes of this document, the term "advisor" will be used throughout. Faculty advisors provide academic advice, guidance on the sequencing of coursework and milestones, the development of professionalism, and may potentially contribute to dissertation planning. This information can have a profoundly positive effect on the student's progress through the doctoral program. Accordingly, all epidemiology doctoral students are expected to take an active role in establishing and maintaining the advising relationship. *It is the student's responsibility to initiate and maintain regular contact with the assigned advisor*. Students should arrange to meet with their advisor on a regular basis throughout the program, as well as in the fall and spring to complete and review elements of the Independent Development Plan (IDP) described below.

Every effort is made to assign a faculty advisor whose expertise overlaps with the student's stated research interests, but this is not always possible. Moreover, the faculty advisor is not required to become the student's dissertation committee chair, although the advisor often serves as chair or committee member. If a student wishes to switch advisors, the student may do so upon identification of an alternative faculty advisor who agrees to assume the role. Students should discuss the desire to change advisors with the Program Director as soon as the need arises, so that the Program Director can help facilitate the process.

Individualized Development Plan

Students must complete an Individualized Development Plan (IDP) annually. The purpose of the IDP is to develop a yearly plan for meeting each student's academic and professional development goals. It takes the form of a two-column worksheet, with one side for planning, and the other for reporting on progress. The worksheet also includes space for advisor review and feedback.

At the beginning of each academic year, the plan is drafted by the student, with advisor guidance. The student should update progress on each goal throughout the year. The completed IDP, containing all progress on goals made throughout the academic year, will be reviewed by the student's advisor and then submitted, along with the student's CV, to the Program Director for annual review, feedback, and

filing. Students should use and approved institutional CV format. Students and their faculty advisor receive Program Director feedback over the summer in order to inform IDP development for the following year.

Communication

Doctoral students are responsible for maintaining regular contact with their faculty advisors, and for keeping them apprised of progress. Students are also expected to maintain regular contact with their course instructors, Program Director, and dissertation committee members. For communications purposes, the student's primary university email account (username@ohsu.edu) should be used. Students are expected to check this email account regularly and to reply promptly, preferably within 24-48 hours. When communicating via email, be clear, courteous and professional.

Overview of Degree Requirements

The award of the PhD in Epidemiology is the culmination of a sequential process of coursework, comprehensive examination, and the research, writing, and defense of a dissertation. The degree requires a minimum of 108 credits. The composition of core required credit, elective coursework, mentored teaching and dissertation credits is described in detail below. The primary benchmarks of progress in the program are:

- Completion of coursework requirements
- Comprehensive Examination
- Dissertation Proposal and Defense (oral presentation and an examination)
- Advancement to Candidacy
- Doctoral Dissertation and Defense (oral presentation and an examination)

Students take a series of core courses in epidemiology, biostatistics and public health, as well as elective courses. Course requirements are designed to provide a foundation in the epidemiologic principles, concepts, and methods that form the heart of the discipline. Generally, for full-time students, the first one to two years are devoted to completing this core coursework. Other required courses and electives form areas of emphasis relevant to public health, biostatistical applications to epidemiologic data, and the substantive fields or disciplines of the dissertation research.

Upon successful completion of core coursework in fundamental epidemiologic and biostatistical methods, students must pass a comprehensive examination comprised of both written and oral components. Once the comprehensive exam has been passed, students complete remaining required and elective coursework, and prepare and defend the dissertation research proposal. Student may advance to candidacy after passing the oral dissertation proposal defense, and are permitted to register for dissertation research credits in the term following their advancement. In this phase of the program, students complete their dissertation research. The final product is a written dissertation, accompanied

by a presentation and oral defense of the dissertation work. Upon successful completion of the dissertation defense, the student is recommended for graduation and receipt of the PhD degree in epidemiology.

Students are expected to progress through PhD in Epidemiology Program requirements in a timely manner. While the recommended pace for completion will vary for each student, benchmark deadlines, described in the SPH website section Policies and Procedures: "Time Limits," are applicable to all students. Details pertaining to the required coursework and each benchmark are described below.

Coursework

Epidemiology Core (24 credits)

The epidemiology core must be completed within the PhD in Epidemiology Program. These requirements *cannot* be met with transfer or application of credits from previous courses; *these courses cannot be waived.* Generally, full-time students complete EPI 613, EPI 614, EPI 636, EPI 610, and at least 1 credit of EPI 630 in the first year of the program.

Course Number	Course Title	Credits
EPI 613	Epidemiology II: Methods	4
EPI 614	Epidemiology III: Causal Inference	4
EPI 636	Analysis & Interpret. of Epidemiologic Data	4
EPI 630	Epidemiology Journal Club* must register for 2 terms, 1 credit/term)	2
EPI 640	Research and Proposal Design	3
EPI 668	Infectious Disease Epidemiology	2
EPI 676	Chronic Disease Epidemiology	2
EPI 610	Epidemiology Doctoral Seminar	3

Biostatistics Core (14 credits)

The biostatistics core includes foundational coursework in linear models and categorical data analysis. Students who have not completed equivalent coursework prior to matriculation must register for BSTA 612 and BSTA 613. Students who have completed equivalent coursework prior to matriculation may request to waive these courses, but completion of BSTA 612 and BSTA 613 within the SPH is highly recommended. Curriculum for EPI 610 and EPI 636 integrates material from these courses, and their content will be covered on the Comprehensive Exam.

Students may select either BSTA 514 or BSTA 519 to meet the core requirement, but are strongly encouraged to complete both. Methods taught in these courses are essential to analysis and

interpretation of epidemiologic data. If both courses are taken, select one to fulfill the Biostatistics Core requirement and the other to be applied to Methods Electives.

Generally, full-time students complete BSTA 612 and BSTA 613 in the first year of the program, and take BSTA 519 and/or BSTA 514 in the second year.

Course Number	Course Title	Credits
BSTA 612	Linear Models	4
BSTA 613	Categorical Data Analysis	4
BSTA 515	Data Management (SAS)	3
One* of the following two courses is required:		
BSTA 514	Survival Analysis	3
BSTA 519	Longitudinal Data Analysis	3

* Both courses may be taken. One will count toward the Biostatistics Core requirement and the other toward Quantitative Methods Electives.

Public Health Core (13 credits minimum)

Students who have earned an MPH degree may request to waive any or all of the first three courses listed in the table below (Health Systems Organization, Concepts of Environmental Health, and Principles of Health Behavior). The remaining courses in health and social inequalities and the ethics selective *must be completed* within the SPH PhD in Epidemiology Program. Students without an MPH degree must complete the entire public health core during the program by registering for the 600-level section of each course.

Course Number	Course Title	Credits
HSMP 574/674	Health Systems Organization	3
ESHH 511/611	Concepts of Environmental Health	3
PHE 512/612	Principles of Health Behavior	3
PHE 622	Health and Social Inequalities	3
Select one of the following two courses:		
CONJ 650	Scientific Ethics	1
HSMP 673	Values and Ethics in Health	3

Electives (22 credits minimum)

A total of at least 22 credits of elective coursework are required, taken from graduate level courses offered within the SPH or other departments at OHSU or PSU. At least 12 of these credits must be completed in elective quantitative methods courses, and at least 10 credits must be completed in other

elective courses representing areas of research emphasis or interest. Approved elective courses are listed in the tables below and can be found in the appendices of the *Program Planner* document.

Elective courses must be taken for a letter grade, with the exception of EPI 650 (P/F only). Students are encouraged to plan ahead and to familiarize themselves with course offerings listed on-line in the SPH course catalog. In selecting elective courses, please heed the limit on 500-level or master's level course credits that can be used to fulfill degree requirements for the PhD in Epidemiology. Elective selections outside the SPH require approval of the course instructor and must be approved by the student's faculty advisor and the Program Director. Students requesting to enroll in courses outside the SPH should allow several weeks to obtain relevant approvals. The Graduate Registration Specialist (sphregistration@ohsu.edu) must be notified at least 4 weeks before the start of the term in which the course is offered to allow time for registration procedures to be completed. Last minute requests may be denied.

Courses that Satisfy the PhD in Epidemiology Methods Elective Requirement	
Course Number and Name	**Credits**
EPI 611 Epidemiology Doctoral Seminar II	2
BSTA 514 Survival Analysis (if not taken as part of Biostat. core)	3
BSTA 516 Design & Analysis of Surveys	3
BSTA 517 Statistical Methods in Clinical Trials	3
BSTA 518 Spatial Data with GIS	3
BSTA 519 Longitudinal Data Analysis (if not taken as part Biostat. core)	3
BSTA 522 Statistical Learning & Big Data	3
BSTA 550 Intro to Probability	3
BSTA 551 Mathematical Statistics I	3
BSTA 552 Mathematical Statistics II	3
CPH 610 Geographic Information Systems for Public Health	3
HIP 527 Systematic Reviews	2
HIP 509 Systematic Reviews Practicum (2-6)	2
GEOG 588 Geographic Information Systems	4
GEOG 597 Advanced Spatial Quantitative Analysis	4
PHE 524 Social Epidemiologic Methods and Theory	3
PSY 626 Multilevel Regression	4
PSY 623 Structural Equation Modeling	4
PSY 610 Hierarchical Linear Modeling for Longitudinal Data Analysis (check Banner for listing and course number)	4

Courses that Satisfy the PhD in Epidemiology Other Elective Requirement	
Course Number and Name	**Credits**
EPI 556 HIV/AIDS Epidemiology	3
EPI 567 Global Health Epidemiology	3
PHE 610 Developmental Origins Health & Disease Epidemiology	3
PHE 527 Food Systems and Public Health	3
PHE 612 Advanced Principals of Health Behavior	3
CPH 621 Social Determinants of Health	3
CPH 631 Social Context of Public Health Policy	3
CPH 636 Community Based Participatory Research	3
HSMP 681 Population Health: Policy Practical Implications	3
HSPM 610 Health Policy: Oregon Style	3
HSMP 671 Health Policy	3
HSMP 677 Health Care Law and Regulation	3
HIP 527 Systematic Reviews	2
HIP 509 Systematic Reviews Practicum (2-6)	2
HIP 530 Influence & Effective Communication: Leading Research Teams	2
BMI 512/612 Clinical Information Systems	3
BMI 582 Healthcare Management Information Governance	3
BMI 610 Intro to Biomedical and Health Informatics	3
BMI 614 Information Retrieval	3
BMI 621 Public Health Informatics	3
BMI 637 Healthcare Quality	3

Directed Study: Reading & Conference; Mentored Epidemiology Research

EPI 605, Reading & Conference (R&C) allows students to engage in self-directed reading on a topic or topics relevant to the student's research, teaching, or other degree objectives under the supervision of a faculty instructor. Typically, R&C is used to master a select body of literature through weekly reading, critical evaluation, and focused discussion with the faculty instructor.

EPI 650 Mentored Epidemiology Research offers students a means to link prior and concurrent coursework to the practice of epidemiologic study design, analysis, and interpretation, under the supervision of a faculty instructor. Students gain experience developing the methods and products of academic epidemiology, including data collection and management, data analyses, scientific manuscripts, study proposals, grant applications, and posters or presentations for professional meetings. While the primary faculty advisor is often the source of the mentored project, students may complete a mentored research project with other epidemiology faculty members. The first six (6) credits

of Mentored Epidemiology Research may be used in partial fulfillment of the Quantitative Methods Elective requirement.

To arrange for R&C or Mentored Epidemiology Research credits, the student should identify an appropriate faculty member to serve as the instructor and meet with that person to develop the activity's scope and objectives. Planning should begin several weeks before the start of the term in which the credits will be requested. R&C credits should be used to complete a discrete activity that results in tangible knowledge or skill that apply directly to the student's training. Projects undertaken for Mentored Epidemiology Research should represent a substantial, sustained effort that can be incorporated into the student's program of study. Once the scope of the project is determined, a plan for the work to be completed in each term should be created with guidance and approval from the faculty instructor. The product and due dates should be explicitly stated.

If the R&C or Mentored Research instructor is not the student's primary faculty advisor, the primary faculty advisor's approval should be sought for the requested activity. The student completes the *Directed Activity Request Form* before registration, and *the Directed Activity End-of-Term Report* by the end of the term. The PhD in Epidemiology Program Director will serve as the primary instructor for students who wish to use the R&C option to prepare for the Comprehensive Exam.

For each term in which the student is registered for Reading and Conference or Mentored Epidemiology Research credits, at least 33 hours of work must be completed for each credit requested (i.e. 1 credit=33 hours of work, 2 credits=66 hours of work, and so on).

Mentored Epidemiology Teaching (1 credit)

All epidemiology doctoral students must complete at least one term as a teaching assistant (TA) for an epidemiology course. During the term in which they complete their first teaching assistant assignment, students will register for the 1 credit Mentored Epidemiology Teaching course (EPI 660).

Dissertation Credits (27 credits minimum)

Upon successful completion of the dissertation proposal oral defense and approved advancement to candidacy, students may register for Epidemiology Dissertation credits (EPI 603). A minimum of 27 dissertation credits are required.

Comprehensive Examination

The comprehensive examination is a benchmark requirement of the PhD Program in Epidemiology. Its purpose is to determine whether the student has achieved competencies in the fundamental elements of epidemiologic and biostatistical methods at a level sufficient to perform doctoral research and engage in the dissertation process. Accordingly, the examination covers material from required core courses in epidemiology and biostatistics. It is comprised of a two-part written examination and an oral examination.

On both the written and oral portions of the exam, students are expected to do the following:

1) Demonstrate competencies listed for each core course required for the examination.
2) Integrate and apply knowledge pertaining to the design, conduct and interpretation of epidemiologic studies.
3) Distill complex knowledge into concise and accurate responses regarding content areas.

Further, the oral portion of the exam assesses students' ability to engage in extemporaneous discussion with senior colleagues about epidemiologic study design, methods, and interpretation, including the ability to ask appropriate clarifying questions and answer follow-up questions in an organized and logical manner.

Eligibility and Scheduling

Students may sit for the comprehensive examination after completing the following epidemiology and biostatics core courses with a grade of B- or higher: EPI 613, EPI 614, EPI 636, EPI 630, EPI 610, BSTA 515, BSTA 612, and BSTA 613. The student also must be in good academic standing, with no outstanding incomplete grades at the time of the examination.

The comprehensive examination is offered annually, usually in late August. The exam date typically is announced to all students early in the spring term. Students should indicate their intention to take the exam on the prior year's Individualized Development Plan and submit the *Request for Comprehensive Examination* form to the program office at least four weeks before the exam date. Students who plan to sit for the exam will receive instructions regarding exam procedures 7-10 days before the date of the written exam.

Preparation

There are a number of ways students can solidify their knowledge of course materials and readings from core courses: by retaking courses, serving as a TA in a core epidemiology course, and/or studying course readings. In addition, students may elect to register for up to 3 credits of EPI 605 Reading and Conference (R&C) to reserve time for exam preparation. Students who wish to register for R&C credits

to prepare for the exam must notify the Program Director four weeks before registration for the term in which the R&C will be undertaken and present the study plan in a *Directed Activity Request* form (described above).

Format

The comprehensive exam consists of a two-part written examination followed by an oral examination. The written exam allows students to demonstrate mastery integrating the entirety of their graduate training in epidemiology and biostatistics-- through writing, calculations, data analysis, reporting, and interpretation. The written exam consists of a proctored exam on Sakai of at least 4 hours, and a take-home data-analysis project. At least thirty (30) hours from the release time are allowed to complete the data-analysis portion of the exam. The written portions of the exam must be completed in the allotted time; late submissions will not be accepted. All questions on each portion of the examination should be answered, and should be phrased in clear, precise scientific writing that adheres to standard epidemiologic terminology.

The proctored exam may include any combination of multiple choice, true/false, fill-in-the blank, short answer, computations, and short essay questions. A subset of questions may refer to a published article or articles which will be distributed at least three days before the exam to allow students to gain familiarity with them. One page (front and back) of notes is permitted in the proctored exam. No other materials, including books, notes, or software in any form (digital, hard copy, other) may be consulted during the examination. Use of prohibited materials will result in failure of the exam and disciplinary action. Exam proctors are available to answer clarifying questions.

Instructions, background information, and the dataset for the take-home data analysis project will become available on Sakai on the day of the proctored exam, at a set time. The project will include data analysis and written presentation of results in the form of a short narrative manuscript. This portion of the exam is open-book, but students may not work together. During normal daytime working hours while the take-home exam is in progress, a member of the Comprehensive Exam Committee will be available by e-mail to answer clarifying questions.

The oral exam is a one-hour directed discussion led by members of the Comprehensive Exam Committee. The oral exam gives students an opportunity to demonstrate mastery in areas where the written exam raised concern, and to demonstrate the extemporaneous dialogue with senior colleagues about epidemiologic methods, observations, and interpretation which is expected of epidemiology doctoral candidates. In the event that the oral exam identifies other potential areas of deficiency, the student will have the opportunity to answer follow-up questions, and responses will be noted. As with the written exam, oral exam response should be phrased in clear, precise scientific language.

Grading and Evaluation

The comprehensive examination is written and graded by a Comprehensive Examination Committee of at least three epidemiology faculty members convened by the Program Director. The proctored exam and take-home data analysis are completed electronically and the students are assigned a code number to use in place of their name. The code is retained by a program office staff member not involved in the examination until full evaluation of the written portion is complete. Each question is graded by two faculty members. Discrepancies in points assigned are reviewed by the graders and resolved. If discrepancies cannot be resolved, the Program Director will grade the question and the median score will be assigned. The Committee convenes to discuss exam results for each student, completes an evaluation rubric, and prepares the oral exam questions. Oral exam questioning will be specific to each student based on his/her written exam performance.

Outcomes

The committee will agree upon the outcome (pass, not pass) of the comprehensive examination based on the student's performance on the written oral exam components. The Program Director will send each student a letter containing an explanation of areas of strength and of deficiency, as well as any corrective actions recommended by the committee. In case of exam failure on the first attempt, the student may choose to withdraw from the program, or may request to retake the exam the following year. Students who fail the comprehensive examination on their second attempt of will be recommended for dismissal from the program.

Dissertation

Process Overview

The dissertation is the doctoral student's most substantial achievement -- a significant work of research built upon an immersion in the academic literature, informed theoretical reasoning, and original research and analysis, intended for an educated readership of one's peers. A student does not begin the formal dissertation process until they have completed all relevant coursework and examinations according to program requirements.

The dissertation process consists of four key steps:

1. Appointment of the Dissertation Committee.
2. Dissertation proposal defense based upon written documentation and oral examination.
3. Advancement to candidacy after passing the proposal defense.
4. Dissertation defense and oral examination.

Timing

Upon successful completion of the comprehensive exam, students may formally assemble a dissertation committee and begin drafting their dissertation proposal. When the dissertation chair is satisfied with the draft proposal, the student will circulate it to the remaining committee members. The committee may grant approval to schedule an oral presentation when satisfied that the proposal represents sufficient planning and background research to allow for a meaningful critique and oral defense within a two-hour meeting. Full-time students typically defend their proposals approximately one year after completing the comprehensive exam, and all students are required to progress to the oral defense in accord with the timelines stated above in Section III School of Public Health PhD Policies and Procedures.

Research Standards

All PhD students complete institutionally mandated integrity, human subjects, responsible conduct of research, and conflict of interest in research training. The dissertation project must have Institutional Review Board (IRB) approval. The student should discuss the IRB submission and review process with the dissertation chair.

Dissertation Chair & Committee

The dissertation committee guides the student through the dissertation process, and consists of 4-5 faculty, all of whom have relevant academic qualifications to serve (i.e. doctorally prepared). The committee is chaired by an epidemiology faculty member from the SPH. At least one other faculty member must be an SPH primary or affiliated faculty; the third (and fourth possibly) must bring relevant expertise and be eligible for an SPH appointment. Committee membership should reflect a balance of research experience, content expertise, and methodological expertise relevant to the dissertation topic. Students in good academic standing may assemble a dissertation committee after passing the comprehensive examination. Once the student and the dissertation chair have agreed upon the composition of the committee and sought agreement to participate from all members, they complete the *Appointment of Dissertation Committee* form. This form must be approved before the student can commence substantial work on their dissertation.

Committee Member Criteria

Although the exact composition of the committee may vary depending on the student's topic and the availability of faculty, the following criteria must be met:

- The criteria for serving as a dissertation chair include the following:
  - Member of the OHSU-PSU School of Public Health Epidemiology faculty for at least one academic year;
  - Previous membership on at least one thesis or dissertation committee;
  - Experienced in university teaching, advising, or mentoring;
  - Primary investigator or co-investigator on at least one externally funded research project;
  - Demonstrated record of peer-reviewed scholarly publications;

- Expertise and/or current research related to the student's dissertation and research; and
- Commitment to working with the student throughout the program of study to guide, advise, and mentor in completing the program requirements, dissertation project, general intellectual development, professionalism, and career prospects

- Members of the dissertation committee are selected according to the following criteria:
  - Hold an earned doctorate in a relevant field;
  - Possess expertise related to the content, methods, or practice of the dissertation topic.
  - At least one member of the Committee must have expertise in the biostatistical method(s) being proposed for the dissertation project; and
  - The fourth (or fifth member) should bring a complementary perspective that will enrich the student's learning, and must have topical or methodological expertise relevant to the student's research. This person could be based at PSU, OHSU, a health system, state government, or another university, and should be currently active (if emeritus or retired, justification of the appointment must be provided). This person is recommended by the student and the dissertation chair and the appointment is approved with the rest of the committee. This person reads all drafts and participates in the proposal and final defenses, but does not necessarily engage as heavily in editing, hours of advising, etc. (this will depend upon the individual's interests and time).

The student's working relationship with the chair and other members is a function of the student's background and experience, the nature of the project, and the expertise of the faculty supervisors. Students work very closely with their committees, seeking guidance and feedback frequently throughout the research and writing processes. The chair provides considerable oversight and guidance, so careful selection of a chair is vital for the student and helps facilitate timely completion of the dissertation.

Formation of Committee

The student should discuss the choice of a dissertation chair with her/his assigned faculty advisor. In the event that the student chooses a dissertation chair who is not her/his assigned advisor, the student must obtain written permission a) from the faculty advisor approving the change to the new advisor and b) from the proposed advisor agreeing to serve as the primary faculty advisor and dissertation chair. The student should then select committee members in cooperation with the dissertation chair.

The dissertation chair and the PhD Program Director are responsible for ensuring committee members have experience mentoring students through a dissertation, or else extensive research and publication experience. Good academic advice and mentoring will have a profoundly positive effect on the student's progress through the doctoral program, general intellectual development, and career prospects. Careful composition of the committee is essential to meet students' academic interests and facilitate successful completion of the dissertation. If a student has concerns with due process during the dissertation, they should consult their Program Director, and then the Associate Dean Academic

Affairs, as necessary. If the student wishes to change the dissertation chair, the student must obtain the written permission of the current chair, and resubmit the *Appointment of Dissertation Committee* form. If a committee member is added or changed at a later date, the student must resubmit the *Dissertation Appointment of Dissertation Committee* form, with the dissertation chair's signature.

Dissertation Proposal

The dissertation proposal should demonstrate the scientific merit and feasibility of an epidemiologic research project that, upon completion, will substantially contribute to the field through manuscripts likely to be published in peer-reviewed scientific journals. The written proposal provides the student the opportunity to gain a deeper understanding of the field of research through a substantial review of related scientific and methodologic literature. Through reviews and feedback of the dissertation committee on written drafts of the proposal, the study design and focus of the research will be optimized before active primary research begins. The final dissertation proposal is presented to the publicly, and is followed by an oral defense that provides an additional opportunity for criticism and suggestions from faculty members and fellow students with expertise in epidemiology, biostatistics, and relevant biologic or social science subject matter.

Written Dissertation Proposal Format

The written proposal contains the following sections:

1) *Introduction chapter:* a 4 – 5 page, single-spaced review of literature and the purpose, aims, theoretical framework, and biological/social concepts that form the basis of the body of research being proposed. The introduction should be broader and more detailed that what would be included in an NIH proposal. A revision of this chapter will become the first chapter in the dissertation.
2) *Specific aims and proposed methods for data collection, analysis, and interpretation*: this section should be 12 pages or less and be in the format of the research section of an NIH research proposal (see PHS 398 Instructions, Sections 5.5.2 on Specific Aims and 5.5.3 on Research Strategy). Include a brief description of strategies to protect human subjects and the status of IRB review of the proposal.
3) *Preliminary plan for three manuscripts***:** a table mapping each aim to a proposed manuscript title and target journal for publication (see Preliminary Plan example in part 'e.' below).
    a. *Literature reviews:* In most cases, it will not be acceptable to propose a literature review as one of the three manuscripts. Instead, the review of literature should be included in the introduction chapter. Exceptions may be considered if a formal systematic review is a specific aim of the dissertation work.
    b. *Authorship***:** For each paper, include a statement that shows the student will be the primary author, how the content will represent the student's work, and how order of authorship for collaborators will be determined.

c. *Timeline*: Indicate the expected stage of submission at the time the dissertation will be defended (i.e., submitted, in press, or published). Students are expected to have submitted *at least two of the three manuscripts for publication* by the time of the final dissertation defense.
d. *Formatting*: Follow good practices for technical document formatting. Include the page number and version date in the footer. Add running line numbers. Use headings and a table of contents for ease of navigation.
e. *Example Preliminary Plan Table:*

Research Aim	Tentative Manuscript Title	Authorship Plan	Potential Journal
1. Insurance status and weight change following bariatric surgery	Insurance status differences in weight loss and regain over five years following bariatric surgery	I will be primary author on all manuscripts and will take responsibility for analyses, initial drafts, coordinating reviews, and journal submission. Dr. … will be senior author, and …… will be coauthors.	*Obesity*
2.			
3.			

Authorship Standards

Authorship of future publications from the dissertation should be discussed with the Dissertation Chair early in the dissertation proposal development process. It is expected that the authors in co-authored articles will take full responsibility to work together in terms of the substance of the article. Please refer to OHSU Policy 12-70-010 on Authorship Attribution for more information.

Oral Defense of Dissertation Proposal

The proposal defense summarizes the background, research question, core literature, research design, analytic methods, human subjects considerations, anticipated limitations and strengths, and timeline for completion. The dissertation proposal defense has two components: a 30-40 minute oral presentation by the student, which is open to the public, and an examination period which is closed. During the closed defense session, which is about 60 minutes in length, the dissertation committee members question the candidate on the significance, methods, limitations, and implications of the proposed work. The committee then meets in executive session to determine the defense outcome, and then meets privately with the candidate to share the decision. Each committee member completes the *Dissertation Proposal Defense Evaluation Rubric* and signs the *Dissertation Proposal Approval* form at the completion of the defense.

Scheduling

Final review of the proposal draft should take place at a convened meeting of the full dissertation committee, at least 4-6 weeks before the anticipated defense date. The student may formally schedule the dissertation proposal defense date as soon as the committee is satisfied that the draft proposal represents sufficient background research and preparation of an appropriate design and analytic approach. It is the student's responsibility to schedule a room for the defense, along with any audio-visual equipment needed. Please contact the program office for guidance on scheduling a room.

At least two weeks before the agreed upon date, the student must submit the completed *Dissertation Proposal Defense Request* form to the program office, along with the most current draft of the dissertation proposal, so that a public announcement can be circulated. All committee members must be able to be present or available by audio/visual connection for the oral defense. The student and committee should allow at least two hours to complete for the oral defense.

At least one week before the proposal defense (earlier if requested by the chair and committee), the student must provide the final proposal draft to the committee. Students should confirm the date, time and location with committee members. If a committee member is unavailable, the meeting must be rescheduled.

Students are encouraged to hold a small "dress rehearsal" of their defense presentation with peers and the program director in order to receive feedback in advance of the actual proposal defense.

Outcomes

The committee will assign the outcome as 'Pass' or 'Not Passed'. To pass the oral exam, the student must meet or exceed expectations for all attributes listed on the *Dissertation Proposal Defense Evaluation Rubric*.

An outcome of 'Pass' is defined by the following conditions:

1. The student's proposal and presentation meets or exceed expectations and the proposal is accepted as is.
2. The student's proposal and performance meets or exceeds expectations, but further explicit revisions are required by the committee. It is the chair's responsibility to ensure the required changes are clearly recorded in the chair's rubric form, that these are communicated verbally to the student, and that the agreed upon date for revisions is logged on the *Dissertation Proposal Defense Approval* form. If the student does not sufficiently address the explicit revisions by the deadline, the outcome will be converted to 'No Pass.'

An outcome of 'Not Passed' is defined by the following condition:

The student's proposal and performance does not meet expectations. In this circumstance, the committee will agree upon specific corrective actions required for the proposal and performance to

meet expectations. It is the chair's responsibility to clearly record the required corrective actions in the chair's rubric form, and to ensure deficiencies and corrective actions are communicated verbally to the student before the oral defense concludes. The chair is also responsible for creating a written plan with the student to undertake the corrective actions so that the proposal and performance meet or exceed expectations on the second attempt. Failing the second attempt of the dissertation proposal defense will result in recommendation for dismissal from the PhD program.

The student should submit an updated final copy of the proposal to the PhD program office. After successful defense of the dissertation proposal, close contact with the dissertation chair is recommended throughout the institutional review approval process, the data collection process, and preparation of the written doctoral dissertation.

Advancement to Candidacy

Once the ***Dissertation Proposal Approval f***orm and completed rubrics have received institutional signatures, the program office will initiate the process for advancement to candidacy. This entails completing an audit of the student's current degree requirements and preparing the ***Advancement to Candidacy*** form for program and institutional approval. The program office will complete the Advancement to Candidacy process as expediently as possible. However, it can take several days for institutional signatures to be obtained, especially in busy times such as prior to the start of fall term. The student and her/his committee chair will be notified by the program office when advancement to candidacy has received final approval.

After advancement to candidacy, students are permitted to identify themselves with the words "PhD candidate." It is not permissible to use of PhDc, PhDC, PhD (C), or similar lettering after a student's name. Use of these initials is not consistent with institutional policy of avoiding any PhD designation until after the Board of Trustees has formally awarded the degree.

The student may register for dissertation research credits in the term ***following*** institutional approval for advancement to candidacy. Students are required to be a candidate for at least three academic terms and complete at least 27 credits of dissertation research before the PhD degree is awarded.

Written Doctoral Dissertation and Defense

Writing the dissertation requires substantial time and effort, requiring at least 27 credits of dissertation research credits to meet degree requirements. The student should work closely with the dissertation committee chair to plan a timeline for implementing the data collection, management, and analytic approaches described in the dissertation proposal, and should allow ample time for interpretation of data, writing, and submission of manuscripts for publication. Regularly scheduled meetings between the dissertation chair and student will facilitate timely progress. Quarterly progress reports should be written by the candidate and submitted to committee members for review and feedback. It is recommended that the final review of the dissertation draft take place at a convened meeting of the full dissertation committee at least 4-6 weeks before the anticipated proposed dissertation defense date. Copies of the final dissertation draft in its entirety should be submitted to the committee members at least two weeks prior to the defense, to allow sufficient time to incorporate their suggestions and comments.

If unanticipated events result in a substantial change in the specific aims and/or study methods of the original proposal, a revised proposal must be submitted to the Program Director for approval and authorized by the SPH Dean's Officel. Should this situation arise, please consult the Program Director immediately for guidance. Prepare and submit the ***Revisions to Dissertation Proposal*** form.

Prior to the dissertation defense, it is expected that the candidate will have submitted, and ideally have published, at least one manuscript from the dissertation in a high-quality professional journal that uses peer review and publishes original research.

Institutional Review Board Approval

Institutional Review Board (IRB) approval must be obtained for research involving human subjects (or data derived from human subjects). Information about the IRB submission process, as well as forms and policies, are available on the OHSU IRB website. The student should work closely with the dissertation chair in preparing the IRB submission materials. The chair may need to be the principal investigator for IRB purposes. Dissertation research using data from human subjects may not commence until IRB approval has been obtained. Any changes to the dissertation protocol must be reviewed and approved by the IRB.

Written Dissertation Format

The structure and formatting of the final dissertation must follow guidelines described in "Preparations/Guidelines for Theses and Dissertations" on the OHSU Library website. Additional helpful guidance and examples can be found on the PSU website "Electronic Thesis and Dissertation (ETD) Formatting Requirements".

The dissertation document is comprised of the following sections:

- Title page (required, this page does not carry a page number)

- Copyright Notice page (this page does not carry a page number). This page is required if you have registered for copyright; otherwise it is optional but recommended.
- Prefatory pages. The following pages are numbered with lower-case Roman numerals (i, ii, iii, iv, etc.). A page number must be printed on every page. Each of these sections must begin on a new page, with the title of the section centered at the top.
    - Abstract (e.g., center the word 'Abstract' at the top of the page and number the page starting at "i").
    - Dedication (optional)
    - Acknowledgments (optional)
    - Table of Contents (required)
    - List of Tables and List of Figures (required)
        - For multi-paper dissertation, the tables and figures must be clearly listed by chapter in the List of Tables and Figures
    - Glossary or List of Abbreviations/Symbols (required)
    - Preface (optional)
- Text of the Dissertation, divided into Chapters. Beginning with the first page of Chapter 1, all pages are numbered with Arabic numerals (1, 2, 3, etc.); this pagination continues to the end of the document. A page number must be printed on every page.
    - Chapter 1: Introduction and Research Aims
    - Chapter 2: Review of the Literature
        - The literature review should address the overarching knowledge relevant for the body of work covered in the research papers included in the subsequent three chapters. This section should demonstrate the cohesive nature of the student's work.
    - Chapter 3: Research Paper #1
    - Chapter 4: Research Paper #2
    - Chapter 5: Research Paper #3
    - Chapter 6: Synthesis of Research
        - This chapter should draw conclusions from the body of research as a whole, including overarching themes, strengths and limitations, public health significance of the work, and future research directions.
- Terminal References (omitted for the multi-paper format)
    - For the multi-paper format, it is most typical that each chapter (including Chapters 1, 2 and 6) will have its own reference section.
        - All references should be formatted uniformly throughout the dissertation. Any format used in a standard peer-reviewed epidemiology or public health journal is permissible.
- Appendices (relevant supporting materials such as invitations to participate, consent forms, data collection instruments, etc.) Divide into A, B, C and so on as needed.

PhD in Epidemiology dissertation documents from students who have successfully completed the program are available online through the OHSU Library. It is recommended to consult these documents as models for organizing and formatting the dissertation document.

Dissertation Defense

The dissertation defense is an oral presentation of the completed written dissertation. It lays out the purpose, implementation, and findings of the dissertation project, and makes a case for the project's contribution to scholarship in epidemiology and other related fields of study. The defense as a whole lasts approximately two hours. Components include the candidate's oral presentation, which is open to the public, and a closed examination session of the candidate by the dissertation committee.

The candidate should prepare and deliver a 30-40 minute presentation on the dissertation project. All members of the dissertation committee must be present either physically or by video- or teleconference. The presentation should be well-designed, rehearsed, and professional. Afterwards, the dissertation committee members will examine the candidate on elements of the study design, estimates of association, interpretation, inference, limitations and implications of the work and results. The committee then meets in an executive session to determine the defense's outcome, then privately with the candidate to share the decision.

Scheduling

The student may schedule the dissertation defense as soon as the dissertation committee is satisfied with the draft document. The defense must be completed no later than the end of week 6 in the academic quarter in which the candidate wishes to graduate. A defense that involves any PSU faculty who are on 9-month contract may be held only in the regular academic terms (fall, winter or spring quarter).

It is the student's responsibility to schedule a room for the dissertation defense, along with any audio-visual equipment needed. Rooms can be scheduled using the 25Live Room Reservation System available on the O2 website.

At least two weeks before the agreed upon date, the student should submit the completed ***Dissertation Defense Request*** form to the program office, along with an abstract of the dissertation, so that a public announcement can be circulated. All Dissertation Committee members must be able to be present or available by audio/visual connection for the defense. If a committee member is unavailable, the dissertation defense must be rescheduled.

Students are encouraged to hold a small "dress rehearsal" of their dissertation defense presentation with peers and/or the program director in order to receive feedback in advance of the actual defense date.

Outcome

The dissertation is approved by the dissertation committee when there is no more than one dissenting vote after the dissertation defense. If there are two or more dissenting votes, the candidate will be given a second opportunity to defend the dissertation. The second defense may take place no sooner than one month and no later than six months after the first defense. If there are two or more dissenting votes at the second defense, the student fails the dissertation defense.

At the conclusion of the dissertation defense, each committee member completes the *Dissertation Defense Evaluation Rubric* and signs the ***Dissertation Defense Approval*** form.

Following the defense, the candidate makes any corrections to the dissertation. All required corrections must be *completed and approved* by the dissertation chair *within two months (60 days) of the dissertation defense date*. Failure to submit an approved dissertation by this deadline will void the original defense and the dissertation defense will need to be repeated.

Use of the PhD Degree Designation

The PhD in Epidemiology degree will be conferred officially once the OHSU Registrar has certified that all degree requirements are complete, typically two to three weeks after the end of the term. Candidates can check Banner to confirm that the degree has been awarded. The candidate may list the PhD degree after their name only after the degree has been posted by the Registrar to the student's official academic transcript.

Associated Forms and Documents

Contact the PhD Program Office (SPHregistration@ohsu.edu) to obtain copies of the following PhD program forms and document, and for guidance on where to obtain SPH and OHSU institutional forms.

- PhD in Epidemiology Program Planner
- Individualized Development Plan
- Directed Activity Request
- Directed Activity End of Term Report
- International Away Elective Form & Graduate Student Travel Waiver of Liability
- Request for Comprehensive Examination
- Appointment of Dissertation Committee
- Dissertation Proposal Defense Request
- Dissertation Proposal Approval
- Advancement to Candidacy
- Revisions to Dissertation Proposal
- Dissertation Defense Request
- Dissertation Defense Approval

SPH Student Policies, Procedures, and Resources

Policies and procedures applicable to all School of Public Health graduate students can be found on the SPH website, www.ohsu-psu-sph.org. Please review the student policies and procedures listed there, including but not limited to the following sections:

- ☐ Advising
- ☐ Academic Standing
- ☐ Academic Dismissal
- ☐ Academic Dishonesty
- ☐ Codes of Conduct
- ☐ Educational Records Privacy
- ☐ Minimum Course Grade Requirements
- ☐ Recognition of Prior Earned Credit
- ☐ Course Waiver Policy
- ☐ Incomplete Coursework
- ☐ Course Approvals (Electives)
- ☐ Independent Study
- ☐ International Travel and Coursework
- ☐ Continuous Enrollment
- ☐ Leave of Absence
- ☐ Withdrawal Policy
- ☐ Time Limits
- ☐ Grievance Resolution
- ☐ Degree and Certificate Conferral

Resources and support services available to SPH graduate students are listed on the SPH website, www.ohsu-psu-sph.org. Please review the resources listed there.