Epidemiology PhD

COLLEGE OF PUBLIC HEALTH

Learn more about the Doctor of Philosophy in Epidemiology.

About the Program

The dynamic and quantitatively oriented doctoral program in Epidemiology provides advanced training in epidemiological and biologic methods. The program develops strong academic researchers in the field of Epidemiology, with a clear understanding of the patterns, causes and effects of diseases in the population, who are well-prepared to design, implement, analyze and interpret research studies investigating key epidemiological questions with the ultimate goal of improving overall population health. Working closely with faculty in the Department of Epidemiology and Biostatistics, students gain expertise in collecting data, designing instruments and research protocols, directing and conducting sophisticated and multilevel statistical analyses, interpreting data, and communicating research findings to both lay and professional audiences. All students in the Epidemiology PhD program complete common core public health course requirements, which include foundational courses in Biostatistics, Epidemiology, grantsmanship and research design. Beyond these core courses, students master specialized courses in advanced epidemiological and biostatistical methods and engage in research and scholarly productivity with faculty members in the Department of Epidemiology and Biostatistics and throughout the College.

In addition to in-depth, didactic training in epidemiological and quantitative concepts and methods, the PhD in Epidemiology program aims to foster in students the development of a public health professional identity and values. Professional development exercises are infused in didactic courses and available in other program-sponsored activities (e.g., conference attendance, departmental colloquia and brown-bag presentations, journal clubs, and professional development workshops). Doctoral trainees in Epidemiology are encouraged to take advantage of these professional development opportunities offered at various public health centers and laboratories throughout the College of Public Health and Temple University. As the next generation of academic researchers, PhD in Epidemiology students work closely with faculty mentors throughout the program and particularly during the dissertation phase on formalizing grant-writing skills, teaching in higher education, and writing papers for publications.

Time Limit for Degree Completion: 7 years

Campus Location: Main

Full-Time/Part-Time Status: Full-time study is required.

Interdisciplinary Study: Students are encouraged to develop a program of research that is interdisciplinary in nature, involving coursework and research across departments, schools and colleges that is quantitative and methodological in focus. Research in affiliated units is encouraged.

Affiliation(s): A number of Centers, Research Programs, and Laboratories exist within the Department of Epidemiology and Biostatistics, the College of Public Health, and Temple University that are designed to study, develop and evaluate exposures and interventions aimed at resolving significant public health problems (e.g., cancer and related disparities, dementia and cognitive decline, environmental pollution of air and water, infectious diseases, and post-COVID conditions). These centers and labs offer opportunities for research placements for doctoral students to assist students in developing research and papers for publication and presentation at conferences; provide professional socialization; help students meet and work with faculty to define dissertation projects using existing funded research studies; and may provide some funding in the form of Research Assistantships.

Specific Department Research Programs and Labs include Behavioral and Cancer Epidemiology Research Program, Human Exposure Assessment Lab (HEAL), Kidney Cancer Prevention Research Program, Kulick Lab, Weinstein Lab, and the Wiens Lab. Additional Centers and Labs outside of the department also provide opportunities for students. For example, faculty and doctoral students also are involved in research with affiliates in the following Temple entities: the Department of Nursing, Fox Chase Cancer Center, Fox School of Business and Management, Institute on Aging, Institute on Disabilities, Lew Klein School of Media and Communication, Lewis Katz School of Medicine, Maurice H. Kornberg School of Dentistry, the School of Podiatric Medicine, and Temple University Libraries.

Accreditation: The program is accredited by the Council on Education for Public Health (CEPH).

Areas of Specialization: Areas of specialization can be dictated through the area of concentration pursued by the student in their dissertation research.

Job Prospects: Graduates of the PhD in Epidemiology program are prepared to become empirical quantitative researchers in academic units, nonprofit organizations, government agencies or the private sector, including pharmaceutical companies or health systems. Graduates are well-trained to identify the etiology of major public health issues; conduct and analyze survey, surveillance, longitudinal, case-control and experimental data using comprehensive and complex statistical techniques; and develop their own methodologically rigorous research studies.

Non-Matriculated Student Policy: Non-matriculated students may take PhD courses only with the permission of the instructor. Further, 8000-level courses are not open to non-matriculated students. Completion of coursework does not ensure admission into the program.

Financing Opportunities: Full-time PhD students generally receive financial support through a combination of fellowships and assistantships. Research Assistants (RAs) perform supervised research activities. Teaching Assistants (TAs) may be assigned to assist in the teaching of courses, including grading examinations and papers or teaching laboratory sections. Some TAs independently teach undergraduate courses. TAs and RAs provide

20 hours of service per week. Both assistantships carry a stipend and tuition remission for up to 9 credits per term. Applications for assistantships are available from the Department of Epidemiology and Biostatistics and must be submitted by January 10 for the following Fall term. The RA/TA application requires a statement of previous teaching and/or research experience, areas of interest, and future goals; unofficial copies of transcripts; and a curriculum vitae. The department makes offers of assistantships following admission to the program.

Admission Requirements and Deadlines

Application Deadline:

Fall: December 15

All applicants to the PhD in Epidemiology program must apply via the Centralized Application Service for Public Health (SOPHAS). The system can be accessed at https://sophas.liaisoncas.com/.

All application materials must be received by the deadline in order to be reviewed by the PhD Admissions Committee. Admission is competitive, and students are admitted only once a year. An important component of the admissions decision is the fit between the applicant's goals, experiences, and interests and the expertise of the faculty in the PhD program. Therefore, it is highly recommended that applicants contact the Department of Epidemiology and Biostatistics at cph@temple.edu or 215-204-8726 to discuss their areas of interest and opportunities for mentored research before applying.

Applicants should check their application status on the SOPHAS portal often and inquire directly of SOPHAS about receipt of materials. For other questions, please contact the CPH Office of Admissions at cph@temple.edu or 215-204-5200.

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from evaluators who can provide insight into the applicant's academic abilities and talents, as well as comment on the applicant's aptitude for doctoral-level study and research. Recommendations from college/university faculty members are preferred.

Coursework Required for Admission Consideration: Applicants are expected to have completed coursework in epidemiology, data analysis, research methods and statistics. Courses in natural, social or behavioral sciences related to health are desirable.

Master's Degree in Discipline/Related Discipline: A master's degree is generally required, and preference is given to applicants who have a master's degree in epidemiology, statistics or the health sciences, including behavioral medicine, environmental health, medicine or a public health discipline.

Applicants without a master's degree must meet the following minimum qualifications to be considered:

- Hold a bachelor's degree in a field related to epidemiology, statistics, biology or the health sciences;
- Have earned a GPA 3.5 in math and statistics courses; and
- Present quantitative and verbal GRE scores greater than the 75th percentile and a written score of 4.0 or higher.

Students accepted without a master's degree are required to complete foundational courses in public health, epidemiology, and biostatistics prior to beginning doctoral coursework.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree is required, although it need not be in public health. Preference is given to applicants who have a background in epidemiology, statistics and the health sciences, including behavioral medicine, environmental health, medicine or a public health discipline.

A WES evaluation is required for applicants who completed their bachelor's degree outside of the United States. This can be requested at https://www.wes.org/ and submitted through SOPHAS.

Statement of Goals: In no more than 750 words:

- describe important academic and research achievements and interests, and
- specify how your research interests relate to your ultimate career goals in the field of Epidemiology and to ongoing work by faculty members affiliated with the PhD in Epidemiology program.

The match between faculty and student interests is important in the admissions decision. Be sure to articulate clearly the linkages among your training goals, the expertise of our faculty, and the training emphasis of the PhD program. For a description of faculty interests, visit the Epidemiology and Biostatistics Faculty webpage.

Standardized Test Scores:
GRE: Optional. Scores above the 75th percentile on both the verbal and quantitative sections of the test are desired. Official GRE scores should be sent to SOPHAS using code 0151.

Applicants who earned their baccalaureate degree from an institution where the language of instruction was other than English, with the exception of those who subsequently earned a master's degree at a U.S. institution, must report scores for a standardized test of English that meet these minimums:

- TOEFL iBT: 79 (send officially to SOPHAS using the SOPHAS-specific TOEFL code 5688)
- IELTS Academic: 6.5
- PTE Academic: 53
- Duolingo: 110

Resume: Current resume required.

Writing Sample: Scholarly articles, technical reports or academic professional papers of which the applicant is the first author are preferred. Unless it is a published work, the writing sample should be no more than 10 pages.

Laptop: All incoming students in the College of Public Health are required to have a laptop. Academic programs in the college are technology intensive. They incorporate statistical and database analyses; utilize specialized tools for athletic training, kinesiology and physical therapy; stream audio and video for communication sciences; facilitate online interactive counseling for social work; and foster clinical experiences and online assessments. The laptop requirement enables the College of Public Health to improve opportunities for active learning and provide greater access to specialized software and required tools in and out of the classroom, better preparing students for the workforce. Learn more about device specifications and suggested vendors. Students can use excess financial aid (i.e., funds that are reimbursed after all tuition and fees are paid) to meet student needs, including the purchase of a laptop. Scholarships may also provide funding.

Advanced Standing: A student enrolled in the PhD in Epidemiology program may apply for advanced standing credits for graduate coursework graded "B" or better from an accredited institution. Credits for courses taken as part of a master's degree are considered. Credits for thesis work, fieldwork, clinical practice or directed projects/readings cannot be used for advanced standing credit. To be approved for advanced standing, the courses must be deemed appropriate as part of the student's training in the PhD program. For the maximum number of advanced standing credits awarded, consult the program's Senior Graduate Advisor.

Program Requirements

General Program Requirements:
Number of Credits Required to Earn the Degree: 45

Required Courses:

Code	Title	Credit Hours
Core Courses		
EPBI 8012	Multivariable Biostatistics	3
EPBI 8401	Concepts and Methods in Health Research	3
EPBI 8402	Intermediate Concepts and Methods in Health Research	3
EPBI 8403	Applied Concepts and Methods in Health Research	3
HRPR 5001	Current and Emerging Issues in Public Health and Health Professions [1]	0
Research Methods Courses		
EPBI 8212	Grantsmanship in Health Research	3
HRPR 5999	Research Experience in Health Professions	0
Epidemiology Methods Courses [2]		
Select two from the following:		6
EPBI 8207	Reproductive and Perinatal Epidemiology	
EPBI 8213	Cancer Epidemiology	
EPBI 8301	Clinical Research Methods in Public Health	
EPBI 8303	Behavioral Epidemiology	
Biostatistics Methods Courses [2]		
Select two from the following:		6
EPBI 5003	Spatial Analysis in Public Health	
EPBI 8204	Multilevel Modeling in Interdisciplinary Research	
EPBI 8304	Applied Statistical Methods for Incomplete Data Analysis	
EPBI 8305	Big Data Analytics for Health Research	
Electives [3]		
Select four from the following:		12

ENVH 8016	Environmental Exposures and Human Health Risk Assessment	
ENVH 8207	Environmental Epidemiology	
EPBI 5204	Mental Health Epidemiology	
EPBI 5205	Surveillance, Epidemics and Outbreaks	
EPBI 5500	Seminar in Current Issues in Public Health	
EPBI 8011	Social Epidemiology	
EPBI 8201	Structural Equation Modeling	
EPBI 8205	Chronic Disease Epidemiology	
EPBI 8206	Infectious Disease Epidemiology	
EPBI 8209	Epidemiology of HIV/AIDS	
EPBI 8302	Behavioral Measurement	
EPBI 8306	Statistical Inference with Applications in Health	
EPBI 8307	Systematic Reviews	
GUS 5062	Fundamentals of Geographical Information Systems	
GUS 5068	Census Analysis with Geographical Information Systems	
GUS 5069	GIS for Health Data Analysis	
Research Courses [4]		
EPBI 9994	Preliminary Examinations	1
EPBI 9998	Dissertation Proposal Research	2
EPBI 9999	Dissertation Research	3
Total Credit Hours		**45**

1 This common College Core course is required of all incoming graduate students in the College of Public Health. It is available completely online and designed such that students can complete the modules at their own pace over the course of their degree program.

2 Students may select from these courses to fulfill general electives requirements if they are not taken as an epidemiology or biostatistics methods course. Other courses may be used to fulfill the methods course requirements with approval.

3 Students select electives with advisement from a faculty mentor or the program director. With approval, other electives from outside of the department can be taken. There are elective options not listed that can be chosen based on advisement and availability.

4 The Graduate School requires that students complete a minimum of 6 credits that include EPBI 9994, EPBI 9998, and EPBI 9999. Of the 6 credits, at least 2 credits must be earned in EPBI 9999.

Minimum Grade to be Earned for All Required Courses: B-

Culminating Events:

Area Paper:

Prior to sitting for the preliminary examinations, students must write a published or publishable paper in their chosen area. The purpose of the paper requirement is to demonstrate critical and interpretive knowledge in epidemiology, as well as a high proficiency in written communication and a capacity to contribute to generalizable knowledge in the field. The paper can be written in one of a variety of formats, including a systematic review, an empirical paper, or a theoretical piece relevant to the field.

The student must be the lead or sole author. The paper can be a peer-reviewed published or in-press article. Papers that are of publishable quality but have not yet been submitted or are under review for publication are also acceptable. A committee of departmental faculty members, exclusive of the student's advisor, determines if the published paper meets the writing requirement. The committee evaluates the paper and votes on whether the student has passed or failed. Students who fail the paper requirement are allowed to submit a revision by the end of the next term.

A student cannot advance to the preliminary examinations without passing the paper requirement. Failure to satisfactorily complete the area paper requirement within one term after initial submission can result in dismissal from the PhD program. Students who are entering the PhD program and have already published a peer-reviewed paper related to epidemiology can request to waive this requirement by completing a waiver application and submitting it along with the published document to the Graduate Program Director.

Preliminary Examinations:

In the term prior to taking the preliminary examinations, students should review their progress with their faculty advisor. When eligibility has been confirmed, students contact the Assistant Director of Administration and request to be registered for EPBI 9994 Preliminary Examinations in the subsequent academic term with the faculty advisor or Director of Graduate Studies.

In order to advance to doctoral candidacy, the student must pass both a written preliminary examination on methods, biostatistics, and substantive coursework and a take-home exam, as well as an oral dissertation proposal. The written preliminary examination is given to students prior to initiating the third academic year in the program. It is largely based on material covered in required coursework and its application to theoretical and practical

problems. Students meet with the Graduate Program Director in January of their second year to discuss the exam. It is suggested that students form a study group and study at least one day per week during the term prior to the examinations.

The preliminary exam is offered in the Summer term and covers the core components of students' training in epidemiology and biostatistics, as well as the specific area of concentration. The examinations consist of the following components:

- Morning Session on Methods and Biostatistics: Epidemiological methods and all materials in core epidemiological courses are covered. Biostatistical methods are also included, covering materials in required biostatistics courses.
- Afternoon Session on the Substantive Area: The student's faculty advisor writes the substantive area section of the exam, which is approved by the Director of Graduate Studies. This section covers advanced/specialty topics and related methods aligned with the student's area of interest.
- Take-Home Exam: Each student is provided questions and a data set from which the student needs to analyze data to provide answers to the questions provided. As such, the take-home exam represents an applied portion of the preliminary examination. The objectives of the take-home exam are to test a student's knowledge and logic in thinking through a problem and to ensure that the student is prepared to move on to the next phase in the program. The take-home exam is due approximately one week after completion of the methods, biostatistics, and substantive on-site exam.

Occasionally, a student chooses to take a course after or concurrent with the preliminary examinations. The student's faculty advisor and the Graduate Program Director must approve such an exception in advance in writing.

The Graduate Program Director coordinates the grading of the preliminary examinations. A committee of departmental faculty members review and score the examinations.

Students who fail these exams may have one opportunity to take the examinations again. A second failure results in automatic dismissal from the PhD program.

Dissertation Proposal:
After passing the preliminary examinations, students may enroll in EPBI 9998 Dissertation Proposal Research. When eligibility has been confirmed, students contact the Assistant Director of Administration and request to be registered for the course.

All students must form a Doctoral Advisory Committee (DAC) with the approval of the Graduate Program Director. The DAC is composed of at least three Graduate Faculty members: two members, including the Chair, must be from the PhD program faculty of the Department of Epidemiology and Biostatistics. The DAC Chair must be approved as Doctoral Graduate Faculty by the Dean of the College of Public Health and by the Graduate School. The chair is responsible for overseeing and guiding the student's progress; coordinating the responses of the committee members; and informing the student and the Graduate Program Director annually of the student's academic progress. The student should plan for an additional external reader at the time of the final dissertation defense (see DEC below). The external reader is not present at the defense of the proposal.

To fulfill the requirements of EPBI 9998, students must submit a dissertation proposal, successfully defend it orally before their committee, apply for Institutional Review Board (IRB) approval for the proposed research, and submit the proposal to the Graduate School. Students have a maximum of one year from the time of completing their preliminary examinations to develop and defend their dissertation proposal. Thus, students may enroll in EPBI 9998 for only two terms without permission. Students needing more time may, with the support of their faculty advisor, formally petition the Graduate Program Director for an extension, although an extension is not guaranteed. Failure to meet these requirements can result in dismissal from the program.

Dissertation:
When eligibility has been confirmed, students contact the Assistant Director of Administration and request to be registered for EPBI 9999 Dissertation Research.

The doctoral dissertation is an original theory-based research study that makes a significant contribution to the fields of public health and epidemiology. It should expand existing knowledge and demonstrate the student's mastery of research design methods and advanced statistical techniques, particularly within the field of epidemiology. The research should be rigorous, while upholding the ethics and standards of the field. It is expected that the study will result in publication and presentation to professional audiences.

To fulfill the dissertation requirement, students must prepare and orally defend the final dissertation in a public meeting. Students present their plans for publishing their dissertation as part of their defense. Students must be enrolled continuously in EPBI 9999 until their dissertation is successfully defended. The Graduate School requires a minimum of 2 credits for the dissertation experience. Students must be enrolled in the term that they graduate.

The Dissertation Examining Committee (DEC) consists of the DAC plus at least one additional external reviewer. The external reviewer must be doctorally prepared. If this person is not a member of the Temple University Graduate Faculty, they must be approved by the Director of Graduate Studies, the Dean of the College, and the Graduate School to take part in the final dissertation examination. The DEC evaluates the student's written dissertation and oral defense, including the student's ability to articulate orally the research question; methodological approach; primary findings; interpretation of the findings; and implications for theory, research and practice. The DEC votes to pass or fail the dissertation and the defense at the conclusion of the public presentation.

If a student needs to change a member of a committee, the new member must be approved by the Graduate Program Director and registered with the Graduate School.

Students who are preparing to defend their dissertation should confirm a time and date with their DEC and work with the department coordinator for the Department of Epidemiology and Biostatistics to secure a room. This should be done at least one month in advance of the proposed date. The department coordinator arranges the time, date and room within two working days. After the time, date and room are secured, the student must send to the Graduate School a completed "Announcement of Dissertation Defense" form, found in TUportal under the Tools tab within "University Forms." This must be submitted at least 10 working days before the defense. The department posts flyers announcing the defense, and the Graduate School lists the defense on its website.

Contacts

Program Web Address:

https://www.temple.edu/academics/degree-programs/epidemiology-phd-hp-epid-phd

Department Information:

Dept. of Epidemiology and Biostatistics
Ritter Hall Annex, 9th Floor (004-09)
1301 Cecil B. Moore Avenue
Philadelphia, PA 19122-6005
epibio@temple.edu
215-204-8726

Submission Address for Application Materials:

https://sophas.liaisoncas.com/

Department Contacts:

Admissions:
CPH Office of Admissions
cph@temple.edu
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