

Epidemiology & Biostatistics

College of Public Health

The Ph.D. program in Epidemiology and Biostatistics at the University of Kentucky is intended to prepare professionals for a career in conducting population-based research and clinical trials. This is a unique program which strongly emphasizes the acquisition of applied skills in the complementary fields of epidemiology and biostatistics, as well as the theoretical foundations of these disciplines. Graduates of this program will be prepared to address the practical challenges of conducting population-based and clinical, translational research in the multidisciplinary work environments of academia, government, and industry. The essentially strong cross-training and mentoring nature of the program is intended to develop independent researchers who will be skilled in designing and conducting studies as well as analyzing, and interpreting the results from an increasing variety of designs and databases in the public health and medical research domains.

The target audience for this program will include students with an appropriate prior bachelor's or master's degree (in biostatistics, epidemiology, statistics, health services research, mathematical sciences, or a related field) with prior mathematical training to include two semesters of calculus (univariate, differential and integral) and statistical methods. Practicing health care professionals (MDs, DMDs, PharmDs, etc.) who are interested in pursuing independent, doctoral level, research careers will be targeted for the program. Master's graduates from psychology, computer science, engineering, business, biology, or chemistry may also find this degree program attractive.

Program Overview

Students will complete a minimum of 57 credit hours of study plus dissertation research and the corresponding residency credits. The core curriculum consists of 33 credit hours comprising eleven courses, including nine courses in epidemiology and biostatistics, a 1-credit-hour doctoral seminar, and a three-credit-hour course that will serve as a broad introduction to public health. Students will also complete a minimum of 24 credit hours of electives, including at least three DGS-approved epidemiology courses and two 700 level biostatistics courses. Electives must be approved by the student's dissertation committee and the DGS. If the student does not yet have a dissertation committee at the time approval is sought for an elective, then approval will rest with the DGS, who will serve as the student's academic advisor until such time as the student has a dissertation advisor.

After passing a written comprehensive examination over selected core courses (between the Fall and Spring semesters of the second year for a full-time student), the student will select a dissertation advisor and form a dissertation committee. The dissertation research will be an original scientific project which is integrative in the sense that either advanced biostatistical methods are applied to a population-based epidemiologic study of sufficient size and appropriate design, or original theoretical research is undertaken in biostatistics with applied research problems. Ordinarily a dissertation document will produce at least three manuscripts of publishable quality, as well as an integrative literature review. The scope of the project will demonstrate independence, mastery of research skills, thoughtful reflection of the results, and contribute to new knowledge in the field of investigation. The student must pass both an oral qualifying examination in the early stages of dissertation research and a final oral defense once the dissertation research has been completed.

Admission Requirements

Please follow the instructions at <http://www.gradschool.uky.edu/ProspectiveStudents/Admission>.

The Ph.D. program in Epidemiology and Biostatistics has its own earlier deadline of 01 February preceding

the fall semester in which the applicant hopes to begin graduate work. This Ph.D. program does not admit students for the spring or summer semesters. See the handbook (p.6) at www.mc.uky.edu/publichealth/documents/degreeprogram/PhD_EPB_Handbook.pdf for additional application requirements, including the submission of some material through SOPHAS.

Financial aid may be available to qualified applicants. For further information about financial aid, academic policies, courses, and other program requirements, please refer to the handbook.

Graduate Courses

BST 675	Biometrics I	(4)
BST 676	Biometrics II	(4)
BST 701	Bayesian Modeling In Biostatistics	(3)
BST 713	Clinical Trials (Same As STA 653)	(3)
BST 740	Spatial Statistics	(3)
BST 760	Advanced Regression	(3)
BST 761	Time To Event Analysis	(3)
BST 762	Longitudinal Data Analysis (Same As STA 632)	(3)
BST 763	Analysis Of Categorical Data (Same As STA 665)	(3)
BST 764	Applied Statistical Modeling In Medicine And Public Health	(3)
BST 765	Missing Data Methodology In Public Health	(3)
BST 766	Analysis Of Temporal Data In Public Health	(3)
CPH 610	Injury Epidemiology	(3)
CPH 616	Cardiovascular Epidemiology	(3)
CPH 617	Environmental And Occupational Epidemiology	(3)
CPH 631	Design And Analysis Of Health Surveys	(3)
CPH 636	Data Mining In Public Health	(3)
CPH 662	Public Health Response To Terrorism And Disasters	(3)
CPH 701	Current Issues In Public Health	(1)
CPH 711	Chronic Disease Epidemiology	(3)
CPH 712	Advanced Epidemiology	(3)
CPH 718	Special Topics In Epidemiology	(3)
CPH 767	Dissertation Residency Credit	(2)
CPH 786	Doctoral Seminar	(1)
EPI 714	Epidemiologic Study Design	(3)
EPI 715	Research Methods In Epidemiology And Biostatistics	(3)
EPI 716	Infectious Disease Epidemiology	(3)