

EPIDEMIOLOGY, PH.D.

The Doctor of Philosophy prepares students, through quality instruction, practical experiences and other research opportunities, for involvement in teaching and independent and collaborative epidemiological research; and trains researchers to teach and pursue original research for investigating health-related conditions. Students will develop a comprehensive knowledge of epidemiologic methods, applied biostatistics and at least one content area of epidemiology. Students will develop advanced skills in designing and conducting ethical population-based research, analyzing complex data, interpreting results of in-depth data analyses, effectively communicating results to scientific and lay audiences both orally and in writing, teaching, and grant writing.

Upon graduation, our students will have a solid foundation in epidemiologic research to improve health and be competitive for positions as postdoctoral fellows, principal investigators, instructors, and leading epidemiologists to be employed by organizations in academia, government (state or federal), private industry, or clinical settings.

A minimum of 30 credit hours must be unique to the University of South Carolina on the doctoral program of study, excluding 12 credits of dissertation preparation.

The following learning outcomes are premised upon having successfully met all the objectives previously that are common to the M.P.H. and M.S.* degrees.

Learning Outcomes

1. Students will demonstrate in-depth expertise in at least one substantive content area of epidemiology.
2. Students will formulate hypotheses of scientific significance, and design a study employing appropriate epidemiologic methods to address the hypotheses.
3. Students will apply knowledge of relevant mechanistic pathways (e.g., physiological, genetic, behavioral, and social) to advance understanding of disease etiology.
4. Students will critically appraise epidemiologic studies for internal and external validity and develop skills to synthesize published epidemiologic evidence.
5. Students will apply a broad range of advanced statistical approaches to analyze epidemiological data.
6. Students will apply the methods and principles of sound epidemiologic and ethical practice (including those related to data collection, processing, management, documentation, and security) in the design and conduct of epidemiologic research.
7. Students will demonstrate the ability to prepare a competitive research grant application in the format specified by relevant government agencies and/or private foundations.
8. Students will effectively communicate epidemiologic concepts methods results and implications to diverse audiences in oral and written formats.
9. Students will effectively teach epidemiologic concepts and methods.

*Note: The Master of Science in Public Health degree in epidemiology will undergo a name change. Effective Fall 2021, the new name for the degree program is Master of Science (M.S.). The curriculum remains the same.

Admissions

Admissions decisions are based on an evaluation of the applicant's entire file in relation to the pool of applicants that year. We also evaluate whether the applicant's needs and goals fit well with our department's strengths and resources. We review doctoral student applications twice/year for fall and spring matriculation.

Applicants for graduate degree programs in Epidemiology must meet all requirements of the Graduate School (https://www.sc.edu/study/colleges_schools/public_health/apply/graduate_applicants/) for admission and the Arnold School of Public Health (https://www.sc.edu/study/colleges_schools/public_health/apply/graduate_applicants/). All applications are submitted through SOPHAS (<http://www.sophas.org/>) with the following required documents:

- Resume or CV
- Three letters of recommendation from academic and/or professional sources
- Official transcripts from **all** schools or colleges previously attended
- GPA 3.0 or higher (4.0 scale)
- GRE scores are not required
- Personal statement describing your academic, research, and professional goals. Your statement must discuss your research area of interest along with the faculty member who has agreed to mentor them.
- Non-US institution transcripts must be verified by World Education Services (WES) or equivalent service. Submit course-by-course evaluation (WES ICAP).
- For those whose native language is not English, we require either a TOEFL (minimum 90) or IELTS (minimum 7.0) score.

For the Doctor of Philosophy (Ph.D.) program, applicants must have a master's degree in public health from an approved school of public health or related field or an equivalent advanced professional degree.

Before an application is reviewed, students must find an epidemiology faculty member in their research area of interest who agrees to be their mentor. This agreement should be mentioned in the personal statement. A holistic approach to the application review process is utilized.

Research experience and publications are not required; however, prior experience is highly encouraged along with publications, including first author.

Degree Requirements (Minimum of 42 Hours)

Prerequisites

Coursework for the Ph.D. in epidemiology assumes that the applicant has taken sufficient courses in the biological or social sciences and has solid preparation at the master's level in epidemiology. For students holding a master's degree in a discipline other than epidemiology, additional preparatory course requirements will be set by the Academic Advisor, in consultation with the Graduate Director and Admissions Committee. At a minimum, applicants must master the content and skills taught in the following master's level courses: EPID 701, BIOS 701, EPID 741, BIOS 757, and BIOS 709. Upon review of student's credentials and their career aspirations, additional courses may be required.

Coursework

| Course | Title | Credits |
|-----------------------------|--|----------------|
| PUBH 700 | Perspectives in Public Health | 3 |
| | replaced with elective if student has M.P.H. | |
| EPID 800 | Advanced Methodological Theory in Epidemiology | 3 |
| EPID 801 | Advanced Analytic Methods in Epidemiology | 3 |
| EPID 802 | Grant Writing | 3 |
| EPID 845 | Doctoral Seminar (1 credit taken 3 times) | 3 |
| EPID 890 | Independent Study (Teaching Practicum) | 3 |
| EPID 890 | Independent Study (Consulting Practicum) | 3 |
| Three Biostatistics courses | | 9 |
| EPID 899 | Dissertation Preparation | 12 |
| Total Credit Hours | | 42 |