PH.D. IN EPIDEMIOLOGY

Overview

The Doctor of Philosophy (PhD) in Epidemiology is an intensive research-training program for students with prior training in Epidemiology or related disciplines. It provides advanced education and training for students seeking a professional career in medical and health-related research, as well as for physicians and other persons who have attained professional degrees and are seeking to integrate epidemiological research and methods into their ongoing careers.

As a research-focused degree, students are given the skills necessary to approach health problems to generate consequential research questions and use the most appropriate epidemiological methods to address them. The methodologically rigorous training comprises both formal classroom education and guided research with faculty mentors. Key research areas include: chronic disease epidemiology, including cancer, diabetes, heart disease, and obesity; behavioral epidemiology relating to substance abuse and HIV/AIDS, occupational disease epidemiology; and health disparities.

Admission Requirements

- **Application** – Applicants must submit their application online through SOPHAS (https://sophas.org/), the centralized application service of the Association of Schools and Programs of Public Health (ASPPH) (https://www.aspph.org/). All application materials, including transcripts, test scores, statement of purpose/personal statement, resume/CV, and letters of recommendations, must be submitted directly through SOPHAS. Applicants to the MD/MPH and MD/PhD programs must apply through AMCAS (https://students-residents.aamc.org/applying-medical-school/applying-medical-school-process/applying-medical-school-amcas/).

- **Transcripts** – Applicants must submit official transcripts from all previously attended colleges and universities. All foreign transcripts must be official and submitted in the original language. If the original language is not English, an official translation must be submitted along with the transcript. All non-U.S. transcripts must be evaluated by the World Education Service (https://www.wes.org/) (WES) using ICAP course-by-course evaluation service.

- **Standardized Test Scores** – Applicants are required to submit a Graduate Record Exam (GRE) (http://www.ets.org/gre/revised_general/about/) taken within the last five years.

- **English Proficiency Exam** – International students are required to take the Test of English as a Foreign Language (TOEFL) (https://www.ets.org/toefl) or the International English Language Testing System (IELTS) (https://www.ielts.org/en-us/). If English is not a student’s native language, the TOEFL/IELTS/Duolingo requirement may be waived if the applicant holds an undergraduate or graduate degree from an academic institution within the United States or from one of the following English-speaking countries listed here (https://www.grad.miami.edu/graduate-education/international-students/).

- **Resume/Curriculum Vitae** – Applicants must include a detailed resume including employment, public health experiences, community service, research, and/or academic or professional honors. Public health experience is not required in order to be considered for admission.

- **Statement of Purpose/Personal Statement** – Applicants are required to submit a statement of purpose that details their academic interest in the program. The statement should discuss any experiences in public health including field experience, research, training, education or other related qualifications. Applicants should discuss how earning the degree will contribute to their future professional and career goals, as well as to the future of public health. Applicants should also address any academic deficiencies, if applicable.

- **Letters of Recommendation** – Applicants must provide three letters of recommendation from individuals who are best able to assess their ability to be successful in a graduate degree program. Ideally, recommenders are recent professors, researchers or employers in a related field. Letters should be signed and on letterhead. Applicants will be asked to include the contact information of their recommenders on the SOPHAS application and recommenders will be sent an online form to complete via email.

For more information about our application process, please click here (https://graduatestudies.publichealth.med.miami.edu/admissions/application-process/). To obtain detailed curricula on all our program offerings, please visit our website (http://publichealth.med.miami.edu/).

For further information, please contact:

Andria L. Williams, MBA  
Director of Admissions  
Department of Public Health Sciences  
University of Miami Miller School of Medicine  
1120 N.W. 14 Street, Room 905 (R-669)  
Miami, Florida 33136  
Tel: 305-243-0291  
Email: publichealthadmissions@miami.edu
## Curriculum Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td>BST 625</td>
<td>Survey of Statistical Computing</td>
<td>3</td>
</tr>
<tr>
<td>BST 630</td>
<td>Longitudinal and Multilevel Data</td>
<td>3</td>
</tr>
<tr>
<td>EPH 604</td>
<td>Clinical Trials</td>
<td>3</td>
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<td>EPH 625</td>
<td>Ethics in Public Health</td>
<td>3</td>
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<tr>
<td>EPH 651</td>
<td>Research Methods</td>
<td>3</td>
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<tr>
<td>or EPH 752</td>
<td>Advanced Research Methods</td>
<td></td>
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<tr>
<td>or EPH 772</td>
<td>Design Implementation of Epidemiologic Studies</td>
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<td>EPH 703</td>
<td>Advanced Statistical Methods I</td>
<td>4</td>
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<td>EPH 705</td>
<td>Advanced Statistical Methods II</td>
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<td>EPH 740</td>
<td>Basic Pathology and Patho-physiology</td>
<td>3</td>
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<td>EPH 751</td>
<td>Survival Analysis in Clinical Trials</td>
<td>3</td>
</tr>
<tr>
<td>EPH 774</td>
<td>Epidemiologic Methods and Reasoning</td>
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<tr>
<td>EPH 776</td>
<td>Methods in Epidemiology</td>
<td>3</td>
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### Professional Development Seminars

- EPH 700: Professional Development Seminar (Course should be taken 3 times for 1 credit each)

### Electives

- EPH-600, 700 level courses not already listed
- BST-600, 700 level courses not already listed

### Dissertation

- EPH 830: Doctoral Dissertation
- EPH 840: Doctoral Dissertation- Post Candidacy

### Total Credit Hours

64

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1. **Students complete the Professional Development/Research Seminar multiple semesters (each Spring semester), minimum of three times; program director permission required for exception to minimum requirement.**

## Plan of Study

### Pre-requisites

The program is primarily designed for persons who have completed an MPH degree, as well as for physicians and others who have a master or doctoral degree in a related discipline. At a minimum, students should have successfully completed a graduate-level, foundation of epidemiology course as well as two graduate-level biostatistics courses.

All PhD in Epidemiology students are required to complete 64 credit hours. These include core courses in epidemiology and biostatistics, elective coursework and the dissertation. Students complete the structured coursework (core and elective courses) during their first two years of study and sit for comprehensive examinations during their second summer semester in the program. After successful completion of the comprehensive examinations, students advance to candidacy for the degree and complete their dissertation research.

## Mission

The mission of the Graduate Programs in Public Health is to develop leaders who can generate and translate knowledge into policy and practice to promote health and prevent disease in human populations.

The PhD program in Epidemiology is an intensive research-training program for students with prior training in epidemiology or related disciplines. All PhD students in our program have extensive contact with faculty members, in part because the program is explicitly designed to be small and interactive. The program takes advantage of South Florida’s unique opportunities for epidemiologic research, including our ever-changing mix of race, ethnicity, and cultures. In fact, many of our research programs could not be conducted elsewhere. Furthermore, because the program is located within the Miller School of Medicine, interactions with basic scientists and clinicians provide opportunities for epidemiologists to develop translational and interdisciplinary research.

## Goals

Upon completion of the Doctorate in Epidemiology (PhD) degree, all graduates will be able to:
• Identify the ethical issue differences between public health (e.g. surveillance) and research (e.g. epidemiologic studies) and apply this skill to analyses of contemporary challenges;
• Recognize potential ethical issues and implement the concepts of ethical conduct of research in epidemiologic studies;
• Design epidemiologic studies applying sound methodology and assess the validity of results;
• Develop and implement data collection/management methods and tools needed for performing epidemiology investigations;
• Apply quantitative and reasoning skills, as well as content-area knowledge to analyze data from epidemiological studies;
• Utilize the application of statistical methods that are critical to epidemiologic inquiry; manage and manipulate data sets in statistical analysis software packages including, but not limited to, SAS and R;
• Identify major chronic and infectious diseases, their general pathophysiology, descriptive epidemiology and risk factors;
• Critically evaluate scientific literature and synthesize the outcomes across studies, balancing limitations and contributions of each study;
• Articulate research questions that advance scientific knowledge and develop a proposal for extramural research funding;
• Present data at academic and professional meetings and submit scientific papers for publication in high-impact peer-reviewed journals;
• Convey epidemiologic concepts to students and peers; effectively communicate epidemiological information to scientists, policy makers and the public;
• Conduct an advanced original research project and demonstrate mastery of the topic area;
• Read, plan, develop and present epidemiologic data outside their area of mastery; and
• Conduct epidemiological research and be prepared to work collaboratively with scientists and practitioners in other fields.
• Convey epidemiology concepts to new learners of epidemiology.

**Student Learning Outcomes**

• Students will develop effective written and oral communication skills in the presentation of public health information.
• Students will develop and demonstrate the ability to make scholarly contributions to the field.
• Students will demonstrate mastery of research competencies.