



## DrPH.-Epidemiology

This concentration is designed for health professionals who would like to become leaders in public health, specifically in epidemiology and other related areas. The Department of Epidemiology coordinates this concentration. Graduates will be able to develop their careers in academia, public health institutions or health-care facilities. They will understand public health policies and practices, identify key elements for decision-making, and be able to plan and evaluate health systems and public health programs by using epidemiologic methodology. This concentration provides the expertise and experience to plan, develop, and evaluate epidemiologic surveillance systems. Students will also gain the epidemiologic knowledge and skills to be able to plan and conduct applied epidemiologic research as independent researchers or as members of research teams. A doctoral dissertation is required providing the opportunity to apply the knowledge gained during coursework and other academic activities. The dissertation is expected to analyze and propose solutions to a problem with implications for public health practice, often by translating and applying new theoretical and technical advances to current problems in public health. Graduates of this program will be able to undertake professional, managerial or leadership positions in public health departments or academic settings, such as schools of public health, epidemiologic research institutions, hospitals or other medical facilities.

### Prerequisite Courses: 18 SCH\*

BIOS 5210	Biostatistics for Public Health I	3 SCH
BIOS 5215	Biostatistics for Public Health II	3 SCH
ENVR 5300	Environmental Health	3 SCH
EPID 5100	Principles of Epidemiology	3 SCH
HMAP 5210	Introduction to Health Management and Policy	3 SCH
SCBS 5110	Behavioral and Social Aspects of Public Health	3 SCH

### Additional Prerequisite Courses in Epidemiology: 9 SCH\*

EPID 5110	Intermediate Epidemiology	3 SCH
EPID 5300	Survey Methodology	3 SCH
BIOS 5740	Introduction to Statistical Packages	3 SCH

### Curriculum

#### Core Curriculum Requirements: 22SCH\*

BIOS 6100	Applied Statistical Methods for Data Analysis	3 SCH
ENVR 6100	Environmental Health Determinants	3 SCH

EPID 6110	Intermediate Epidemiology for Non-Majors <sup>1</sup>	3 SCH
HMAP6100	Health Care Systems	3 SCH
SCBS 6100	Social and Behavioral Theories and Health Applications	3 SCH
SPH 6161	Ethics I	1 SCH
SPH 6162	Ethics II	1 SCH
SPH 6163	Leadership I	1 SCH
SPH 6164	Leadership II	1 SCH
SPH 6900	Doctoral Capstone	

\* A student may petition to waive a core course or prerequisite course requirement based on comparable course work. Such a petition must be approved by the student's advisor and the department chair and course instructor associated with the course.

### **Dr.P.H. Core Curriculum Learning Objectives**

After the completion of the Dr.P.H. core curriculum, the student will be able to:

1. Identify and promote the relationships between public health and social agencies whose actions affect the health of people.
2. Analyze issues and problems in public health using critical evaluation, applied research methodology, and statistical methods.
3. Participate in effecting change in public health policies and practices through the study of how programs are implemented in institutions and society, and to those subjects that support decision-making in public health such as organizational behavior and theory, financial management, strategy, information systems, and ethics.
4. Plan and evaluate public health programs.
5. Develop a vision and philosophy for professional leadership in public health.
6. Acquire the skills to mobilize resources and the organizational and community capacity necessary to address public health challenges to achieve the national health objectives.
7. Participate in the decision making process where professional leadership in public health is conducted.
8. Analyze quantitative research data in public health using appropriate techniques.
9. Communicate findings of the analysis and solution of a problem of public health importance in professional journals.

### **Public Health Practice Experience: 4 SCH**

SPH 6860	Public Health Practice Residency	4 SCH
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### **Culminating Experience Requirement: 9 SCH**

SPH 6950	Dissertation	9 SCH
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### **Required Courses: 12 SCH**

ENVR 6600	Spatiotemporal Environmental Health Modeling	3 SCH
EPID 6615	Epidemiologic Surveillance	3 SCH
EPID 6630	Quantitative Epidemiologic Methods	3 SCH
HMAP 5450	Public Health Program Planning and Evaluation	3 SCH

### **Concentration Required Electives: 12 SCH**

Choose two from the following courses

EPID 6200	Experimental Methods in Epidemiology	3 SCH
EPID 6635	Social Epidemiology	3 SCH
EPID 6645	Reviewing Epidemiological Evidence	3 SCH
EPID 6690	Occupational Epidemiology	3 SCH

Choose one from the following courses

EPID 5610	Chronic Disease Epidemiology	3 SCH
EPID 5630	Infectious Disease Epidemiology	3 SCH

Choose one from the following courses

BIOS 5720	Survey Sampling	3 SCH
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BIOS 5725	Nonparametric Statistical Methods	3 SCH
BIOS 5730	Regression Analysis	3 SCH
BIOS 5735	Analysis of Variance	3 SCH
BIOS 6750	Applied Categorical Data Analysis	3 SCH
BIOS 6760	Multivariate Analysis	3 SCH
BIOS 6775	Clinical Trials and Survival Analysis	3 SCH

**Elective Courses: 6 SCH**

ENVR 5500	Environmental Epidemiology and Biomarkers	3 SCH
EPID 5200	Epidemiology for Healthcare Practice	3 SCH
EPID 5690	Epidemiology of Bioterrorism/Catastrophic Events	3 SCH
EPID 6670	Cancer Epidemiology	3 SCH
EPID 6910	Doctoral Independent Study in Epidemiology	3 SCH
SCBS 6170	Qualitative Research Methods	3 SCH

Important note: Students may substitute an elective course not on this list only with prior written approval of the advisor. Courses not approved as substitutes will not be applied toward the degree plan. Students are strongly encouraged to take more semester credit hours than the required minimum.

Prerequisite coursework does not contribute to the required total number of semester credit hours needed to graduate.

**Epidemiology Dr.P.H. Qualifying Examination**

Epidemiology Dr.P.H. students are required to pass a qualifying exam which is given in the third week of February and the third week of October each year. In order to take the exam, a student must have a grade point average of 3.0 or higher in all coursework. The exam is a culminating experience that tests the student's ability to integrate and apply knowledge s/he has obtained in courses such as EPID 5110: Intermediate Epidemiology, EPID 6100: Advanced Epidemiology, EPID 6615: Epidemiologic Surveillance, EPID 6630: Quantitative Epidemiologic Methods, biostatistics courses, epidemiologic journals, and other sources outside of the classroom. Students are responsible for informing the Department of Epidemiology of their intentions to take the exam. The exam consists of eight questions, of which a student must successfully answer at least seven questions in order to pass. A student who successfully answers less than six questions will fail the exam. For a student who successfully answers six questions, a decision as to whether the student passes will be made by the exam committee. Students who fail the exam may, upon recommendation of the committee, be allowed to retake a different exam or to take an oral exam. However, an opportunity for retaking the exam or the oral exam is not automatic, and students may only retake the exam once.

**Epidemiology Concentration Learning Objectives**

After the completion of the concentration curriculum in epidemiology, the student will be able to:

1. Conduct epidemiological evaluations for public health programs.
2. Assist in the planning, development and evaluation of health systems and programs using epidemiologic methodology.
3. Plan, develop and evaluate epidemiologic surveillance systems.
4. Analyze and solve a public health issue by applying epidemiologic methodology.
5. Communicate findings of the analysis and solution of a problem of public health importance in professional journals.
6. Plan and conduct independent research focusing on the analysis and solution of a problem in public health practice.