

MPH in Epidemiology & Biostatistics

Academic Year 2016-2017

Program Profile

The knowledge and skills of epidemiology and biostatistics are essential for many careers in public health, healthcare, and medicine. The joint epidemiology-biostatistics concentration is designed to prepare students who are committed to studying the distribution and determinants of diseases and other health-related conditions in both population and clinical settings, while simultaneously developing the methodological, analytical, and communication skills for research design, data analysis, and interpretation of results.

By the conclusion of the MPH program, a student in the joint epidemiology and biostatistics concentration will be able to:

MPH-EPID 1: **Descriptive Epidemiology**- Describe a public health issue in terms of magnitude, person, time, place and the ecological factors and lifespan considerations.

MPH-EPID 2: **Evidence-Based Public Health**-Identify and use sources of epidemiologic data, information, knowledge and evidence as a basis for research, decision-making and evidence-based public health practice.

MPH-EPID 3: **Critical Analysis**- Interpret findings from epidemiologic studies, demonstrating understanding of design, confounding, sources of bias and causality.

MPH- EPID 4: **Analytic Epidemiology**-Demonstrate proficiency in epidemiologic study design, measurement and analysis, including the use of statistical software.

MPH-EPID 5: **Epidemiologic Communication**- Effectively communicate epidemiologic information in a linguistically and culturally appropriate manner to the general public, professionals, policy makers, across social sectors and in inter-professional communication.

MPH-EPID 6: **Ethics**-Comprehend basic principles pertaining to the collection, maintenance, use and dissemination of epidemiologic data.

MPH-BIOS 1: **Foundation**- Translate mathematical and statistical foundations to biostatistics.

MPH-BIOS 2: **Research Design**- Design and critically evaluate study protocols in the health sciences.

MPH-BIOS 3: **Data Management**- Design and apply comprehensive data management strategies for health-related studies.

MPH-BIOS 4: **Data Analysis**- Identify and apply suitable statistical methods for data analyses.

MPH- BIOS 5: **Communication, Collaboration, and Consultation**- Effectively communicate statistical information to health practitioners and professionals.

MPH-BIOS 6: **Ethical Practice**- Understand and abide by strict ethical standards in health-related studies.

MPH Core Competencies

The Master of Public Health degree program prepares students to address the following core competencies while advancing their knowledge of public health:

| Competency | Competency Description |
|------------------------------------|---|
| Public Health Knowledge & Skills | The MPH student will apply basic knowledge and skills of the core public health sciences that include: biostatistics, epidemiology, health management and policy, behavioral and community health, and environmental and occupational health, to the prevention of illness and injury and the promotion of population health. |
| Integration of Theory and Practice | The MPH student will demonstrate the effective integration of theory and practice related to public health issues that affect diverse populations, through a thesis or comprehensive examination and a practice experience. |
| Communication and Informatics | The MPH student will gather, organize, and manage data and information effectively to address public health issues through oral and written communications to diverse professionals and lay audiences. |
| Diversity and Culture | The MPH student will demonstrate the ability to interact with both diverse individuals and communities to produce or impact an intended public health outcome. |
| Professionalism | The MPH student will apply ethical principles to the practice of public health in a variety of settings, demonstrating personal integrity while embracing diverse communities. |

**Master of Public Health: Epidemiology and Biostatistics
Concentration Planning Form (54 Credit Hours Required)**

| Fall 1 | | SCH |
|-------------------|--|-----------|
| BACH 5300 | Theoretical Foundations of Individual and Community Health | 3 |
| BIOS 5301 | Foundations of Biostatistics | 3 |
| EPID 5300 | Principles of Epidemiology | 3 |
| EPID 5313 | Introduction to Data Management and Statistical Computing | 3 |
| Spring 1 | | |
| HMAP 5300 | Introduction to Health Management and Policy | 3 |
| BIOS 5311 | Regression and ANOVA | 3 |
| EPID 5310 | Intermediate Epidemiology | 3 |
| EPID 5318 | Chronic Disease Epidemiology | 3 |
| Summer 1 | | |
| EOHS 5300 | Environmental Health (online) | 3 |
| PHED 5197 | Professional and Academic Development | 1 |
| Fall 2 | | |
| BIOS 6300 | Advanced Methods in Biostatistics | 3 |
| BIOS 6314 | Categorical Data Analysis | 3 |
| BIOS 6324 | Survival Analysis | 3 |
| EPID 5312 | Survey Research and Questionnaire Design | 3 |
| EPID 5314 | Applied Data Analysis in Epidemiology | 3 |
| PHED 5000 | Certified in Public Health (CPH) Exam | 0 |
| Spring 2 | | |
| BIOS 6320 | Biostatistical Research and Consulting | 3 |
| BIOS 6322 | Longitudinal Data Analysis | 3 |
| BIOS 6326/6312* | Methods of Clinical Trials / Methods of Survey Sampling | 3 |
| BIOS or EPID 5297 | Practice Experience in Public Health | 2 |
| BIOS 5001 | MPH Comprehensive Exam (BIOS) | 0 |
| EPID 5001 | MPH Comprehensive Exam (EPID) | 0 |
| | Total Degree Hours | 54 |

Reviewed and agreed on this date _____

SPH Advisor _____

Student _____