Department of Biostatistics

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MPH in Biostatistics

The biostatistics concentration is intended for students wishing to pursue careers in local, state, and federal health agencies; health and medical centers; research institutions; health and pharmaceutical industries. The M.P.H. degree in biostatistics is a professional degree that is designed to train students in data management, statistical analysis, interpretation, and presentation of analytical results using computing technology. The courses in the program emphasize the methodology and procedures of statistical analysis and research designs. In addition to a wide variety of exciting applications, there are excellent career opportunities in biostatistics. **For the culminating experience, students may choose between a thesis or a comprehensive exam. Students selecting the comprehensive exam option must take an additional six (6) semester credit hours of electives in lieu of the thesis.** By the conclusion of the M.P.H. program, a student in the biostatistics concentration will be able to:

1. Assess a public health problem using quantitative and/or qualitative data.
2. Know standard terminology and statistical symbols.
3. Select appropriate statistical techniques for a public health problem.
4. Identify, develop, apply and modify an appropriate statistical approach to a public health problem based on constraints and available resources.
5. Work effectively with professionals in public health on problems requiring more advanced concepts and tools.
6. Identify and develop appropriate study designs, sample size and power analysis to a public health problem.
7. Identify and develop appropriate data collection strategies for an appropriate statistical method.
8. Compute statistics with statistical software and/or a hand calculator.
9. Summarize results from statistical analyses.
10. Review statistical analyses and results critically in public health literature.
11. Prepare analyses in a written report from a public health and/or biomedical perspective.
12. Present and interpret findings clearly and concisely in a public health meeting or conference.

Biostatistics Curriculum (45 SCH)

CORE COURSES: 15 SCH

BIOS	5210	Biostatistics for Public Health I	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

REQUIRED COURSES: 12 SCH

BIOS	5215	Biostatistics for Public Health II	3 SCH

BIOS	5700	Mathematical Statistics	3 SCH
BIOS	5730	Regression Analysis	3 SCH
BIOS	5735	Analysis of Variance	3 SCH

PRACTICE EXPERIENCE: 3 SCH (to be eligible for enrollment, students must complete all core courses and at least two required courses)

SPH	5855	Public Health Practice Experience	3 SCH

ELECTIVE COURSES: 9 SCH for Thesis option or 15 SCH for Comprehensive Exam option

BIOS	5720	Survey Sampling	3 SCH
BIOS	5725	Nonparametric Statistical Methods	3 SCH
BIOS	5740	Introduction to Statistical Packages	3 SCH
BIOS	5760	Data Management	3 SCH
BIOS	5910	Independent Study in Biostatistics	1-3 SCH
BIOS	6750	Applied Categorical Data Analysis	3 SCH
BIOS	6760	Multivariate Analysis	3 SCH
BIOS	6775	Clinical Trials and Survival Analysis	3 SCH
BIOS	6785	Biostatistical Research and Consulting	3 SCH

- Students may substitute an elective course not on this list only with prior written approval of their advisor.
- Courses not approved as substitutes will not be applied toward the degree plan.

CULMINATING EXPERIENCE: 0-6 SCH

SPH	5950	Thesis	6 SCH
	Or		
Comprehensive Exam (see details below)			0 SCH

Students who select the comprehensive exam option do not register for a course in order to take the exam; however, they must complete six (6) additional semester credit hours of electives. The exam covers material from four courses: BIOS 5210: Biostatistics for Public Health I; BIOS 5215: Biostatistics for Public Health II; BIOS 5730: Regression Analysis; and BIOS 5735: Analysis of Variance. In order to take the exam, a student must have a grade point average of 3.0 or higher in graduate level biostatistics courses. The exam is given during the first week of April each year. Students are responsible for informing the Department of Biostatistics of their intentions to take the exam. A student who encounters a last minute emergency (sickness, death in the family, etc.) may appeal to the exam committee for an opportunity to take a makeup exam. Students who fail the exam may, upon recommendation of the committee, be allowed to retake a different exam. However, an opportunity for retaking the exam is not automatic.