



Department of Biostatistics

Karan P. Singh, Ph.D.
 Department Chair
 UNT Health Science Center
 School of Public Health
 Center for BioHealth-334
 817-735-2173
 ksingh@hsc.unt.edu

**MPH in Biostatistics
 Academic Year 2008-2009**

The MPH in Biostatistics curriculum is constructed so that students are able to choose either an emphasis in biometry or clinical research depending on their interests. There are excellent career opportunities for students wishing to pursue positions in local, state, and federal health agencies, health and medical centers, health care and clinical research institutions, the healthcare/pharmaceutical industry, and consulting. Applicants to this program are expected to have a background in college algebra and calculus.

Biometry Emphasis (48 Semester Credit Hours)

The biometry emphasis is designed to train students in data management, statistical analysis, interpretation, and presentation of analytical results using computing technology. This emphasis focuses on the methodologies and procedure of statistical analysis and research design. By the conclusion of the MPH program, a student in biometry emphasis will be able to:

1. Identify and develop appropriate data collection strategies for a corresponding statistical method.
2. Review statistical analyses and results critically in public health literature.
3. Disseminate statistical results to public health constituents.
4. Identify, develop, apply, and modify an appropriate statistical approach to a public health problem based on constraints and available resources.
5. Analyze and solve public health issues by applying statistical methodology.
6. Assist in the planning, development, and evaluation of health systems, health programs, and surveillance systems.
7. Conduct independent research focusing on the analysis and solution of a problem in public health.

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	5115	Behavioral Foundations of Public Health	3 SCH

REQUIRED COURSES: 9 SCH

BIOS	5215	Biostatistics for Public Health II	3 SCH
BIOS	5730	Regression Analysis	3 SCH
BIOS	5740	Introduction to Statistical Packages	3 SCH

PRACTICE EXPERIENCE: 3 SCH

SPH	5855	Public Health Practice Experience	3 SCH
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ELECTIVE COURSES: 21 SCH

BIOS	5725	Nonparametric Statistical Methods	3 SCH
BIOS	5735	Analysis of Variance	3 SCH
BIOS	5760	Data Management	3 SCH
BIOS	5910	Independent Study in Biostatistics	1-3 SCH
BIOS	6795	Topics in Biostatistics	3 SCH
BIOS	6700	Probability and Statistical Inference	3 SCH
BIOS	6720	Applied Methods of Survey Sampling	3 SCH
BIOS	6750	Applied Categorical Data 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:

Comprehensive Exam (see details at the end of this section)

- Upon approval by the student's advisor and the department chair, students may elect to complete a Thesis for the culminating experience. In this case, students will take 15 SCH of "ELECTIVE" coursework and 6 SCH of Thesis.

Clinical Research Emphasis (49 Semester Credit Hours)

The clinical research emphasis is primarily designed for those who are currently working in the health care professions. The program is for professionals who wish to prepare for roles in clinical research, health care research, medical database management, or statistical consulting in medical or public health settings. The emphasis is oriented toward applied clinical research, outcome measurement, and applied biostatistics. By the conclusion of the MPH program, a student in clinical research emphasis will be able to:

1. Conduct experimental research in public health such as community trials and clinical trials in collaboration with other health professionals.
2. Communicate findings of the analysis and solution of a problem of health care and public health importance in professional journals.
3. Analyze and solve public health issues by applying statistical methodology.
4. Assist in the planning, development, and evaluation of health systems using biostatistics procedures.
5. Plan and conduct independent research focusing on the analysis and solution of a problem in public health practice.
6. Assist in the planning, development, and evaluation of treatment outcome data collection in a broad array of health care facilities.

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	5115	Behavioral Foundations of Public Health	3 SCH

REQUIRED COURSES: 10 SCH

BIOS	5215	Biostatistics for Public Health II	3 SCH
BIOS	5730	Regression Analysis	3 SCH
BIOS	6775	Clinical Trials and Survival Analysis	3 SCH
HMAP	5230	Ethical, Legal & Social Issues for Responsible Clinical Research	1 SCH

PRACTICE EXPERIENCE: 3 SCH

SPH	5855	Public Health Practice Experience	3 SCH
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NON-BIOSTATISTICS LOWER-LEVEL ELECTIVE COURSES: 6 SCH

ENVR	5310	Exposure and Risk Assessment	3 SCH
EPID	5400	Applied Data Analysis in Epidemiology	3 SCH
EPID	5610	Chronic Disease Epidemiology	3 SCH
EPID	5630	Infectious Disease Epidemiology	3 SCH

NON-BIOSTATISTICS UPPER-LEVEL ELECTIVE COURSES: 3 SCH

EPID	6200	Experimental Methods in Epidemiology	3 SCH
HMAP	6210	Health Service Research I	3 SCH
SCBS	6170	Qualitative Research Methods	3 SCH

BIOSTATISTICS ELECTIVE COURSES: 12 SCH

BIOS	5725	Nonparametric Statistical Methods	3 SCH
BIOS	5735	Analysis of Variance	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	6795	Topics in Biostatistics	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:

Comprehensive Exam (see details at the end of this section)

- Upon approval by the student's advisor and the department chair, students may elect to complete a Thesis for the culminating experience. In this case, students will take 6 SCH of "BIOSTATISTICS ELECTIVE" coursework and 6 SCH of Thesis.

MPH COMPREHENSIVE EXAMINATION (for both emphases)

The comprehensive examination tests mastery of material in courses offered by the Department of Biostatistics, including but not limited to clinical research methods, data management, and statistical analysis. The possible outcomes of taking the comprehensive examination are Pass and Fail. Students who receive a Fail must retake the examination. No more than two attempts are allowed to earn a Pass on the examination. Students must complete all coursework before taking the examination and have a grade point average of 3.0 or higher in all graduate level courses. Students are responsible for informing the Department of Biostatistics of their intention to take the examination. If a student does not complete the examination during the scheduled time, a grade of "Fail"

is automatically recorded. However, students may reschedule the examination with prior written approval of their advisor at least six weeks in advance of the scheduled examination time.

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