DOCTOR OF PHILOSOPHY IN THE FIELD OF HEALTH AND BIOMEDICAL DATA SCIENCE, APPLIED BIOSTATISTICS CONCENTRATION

Program Co-Directors: K. Crandall and Y. Ma

The doctor of philosophy in health and biomedical data science develops data science leaders for applications in public health and medicine. The program advances the field by:

- Providing rigorous training in the fundamentals of health and biomedical data science.
- Fostering innovative thinking for the design, conduct, analysis, and reporting of public health research studies.
- Providing practical training through real-world research opportunities at research centers and institutes directed by departmental faculty.

Students choose one of two concentrations: applied biostatistics or applied bioinformatics. The program offers a unique blend of the two disciplines, which helps practitioners become successful collaborators in interdisciplinary research. Each concentration focuses on the foundations of the respective discipline to acquire fundamental knowledge and experience in the subject area while gaining core knowledge in the foundations of the other concentration.

Visit the program website (https://publichealth.gwu.edu/content/health-and-biomedical-data-science-phd/) for additional information.

REQUIREMENTS

The following requirements must be fulfilled: 72 credits, including 14 credits in core courses, 28 credits in concentration-specific courses, 3 credits in practicum/teaching/research courses, and 12 to 15 credits in dissertation research.

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tr>
<td>Required Core courses</td>
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<tr>
<td>PUBH 6080</td>
<td>Pathways to Public Health</td>
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<td>PUBH 6421</td>
<td>Responsible Conduct of Research</td>
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<td>PUBH 6850</td>
<td>Introduction to SAS for Public Health Research</td>
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<td>PUBH 6851</td>
<td>Introduction to R for Public Health Research</td>
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Concentration-specific courses

- PUBH 6866 Principles of Clinical Trials
- PUBH 6869 Principles of Biostatistical Consulting
- PUBH 6879 Propensity Score Methods for Causal Inference in Observational Studies
- PUBH 6887 Applied Longitudinal Data Analysis for Public Health Research
- PUBH 6871 Statistical Inference for Public Health Research II
- PUBH 8875 Linear Models in Biostatistics
- PUBH 8877 Generalized Linear Models in Biostatistics
- PUBH 8878 Statistical Genetics
- PUBH 8880 Statistical Computing for Public Health Research
- STAT 6227 Survival Analysis

Electives

A minimum of 12 credits in elective courses. See program guide for options.

Practicum/teaching/research

- PUBH 6897 Research in Biostatistics and Bioinformatics (taken for 1 credit)
- PUBH 8283 Doctoral Biostatistics Consulting Practicum
- UNIV 0250 Graduate Teaching Assistant Certification

Dissertation research

- PUBH 8999 Dissertation Research (12 to 15 credits)