DOCTOR OF PHILOSOPHY IN THE FIELD OF HEALTH DATA SCIENCE, BIOINFORMATICS CONCENTRATION

Program Director: K Crandall

The doctor of philosophy in health 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: biostatistics or 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.

ADMISSIONS

Visit the Milken Institute School of Public Health website (https://publichealth.gwu.edu/) for additional information about academic programs and information about GWSPH. Graduate admissions information, including application requirements and deadlines, can be found on the GWSPH Graduate Admissions website (https://publichealth.gwu.edu/admissions/graduate-admissions/).

REQUIREMENTS

The following requirements must be fulfilled: 72 credits, including 11 credits in core courses, 18 credits in required concentration courses, at least 18 credits in elective courses, 1 credit in research leadership, and 12 to 24 credits in dissertation research. Additional requirements include, but are not limited to, completion of a graduate teaching assistantship program certificate.

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PUBH 6080</td>
<td>Pathways to Public Health</td>
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<th>Code</th>
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<tr>
<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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<td>PUBH 6852</td>
<td>Introduction to Python for Public Health Research</td>
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<td>PUBH 6860</td>
<td>Principles of Bioinformatics</td>
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<td>PUBH 6886</td>
<td>Statistical and Machine Learning for Public Health Research</td>
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<tr>
<td>PUBH 8001</td>
<td>Doctor of Philosophy Seminar on Cross-Cutting Concepts in Public Health</td>
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Concentration-specific courses

- 15 credits in bioinformatics courses
  - PUBH 6854: Applied Computing in Health Data Science
  - PUBH 6859: High Performance and Cloud Computing
  - PUBH 6861: Public Health Genomics
  - PUBH 6868: Quantitative Methods
  - PUBH 6884: Bioinformatics Algorithms and Data Structures
  - PUBH 8885: Computational Biology

Electives

A minimum of 18 credits in elective courses. Students must take at least 3 credits in biostatistics courses and at least 3 credits in cognate area courses.

Research Leadership

- PUBH 8413: Research Leadership

Dissertation research

- PUBH 8999: Dissertation Research (taken for 12 to 24 credits)

Additional requirements

Additional program requirements include but are not limited to completion of the University’s Graduate Teaching Assistantship Program (GTAP) certificate, which includes enrollment in UNIV 0250.*

*Visit the GTAP website (https://gradfellowships.gwu.edu/graduate-teaching-assistantship-program-gtap/) for additional information.