Biostatistics Dr.P.H.

Degree Requirements: 60 Credit Hours

Advising

Jiann-Ping Hsu College of Public Health
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Degree Admission Requirements

Regular

To complete an application to the Dr.P.H. program, applicants must submit the following:

• Completion of an application in SOPHAS.
• Official transcript(s) from a regionally accredited college or university showing courses completed, grades earned, dates, and degree(s) awarded. Transcript(s) must show completion of at least one (1) course in each of the following five (5) areas:
  • biostatistics
  • epidemiology
  • social and behavioral sciences in public health
  • health policy and management
  • environmental health sciences
• Courses must have been completed in the last five (5) years, and each must have been passed with a grade of “B” or better. Applicants who have not completed these courses, but whose applications show exceptional potential for success in the Dr.P.H. program, may be admitted to the Dr.P.H. program, but will be required to complete the courses (as presented in the JPHCOPH MPH core course requirements) with grades of “B” or better before enrolling in doctoral level courses;
• Three (3) letters of recommendation. Two must be from graduate faculty members and it is encouraged that the third letter be from a work supervisor;
• Official scores from the GRE (General Test) taken in the last five (5) years. An original copy of the test score, sent by the testing agency to the Office of Admissions, is required before any action is taken on an application. A copy of the score provided to the student and subsequently forwarded is not acceptable. The requirement for completion of a standardized test will be waived for those applicants who hold a doctoral degree from a regionally accredited college or university;
• All international applicants, including resident and non-resident aliens, whose native language is not English and who do not have an undergraduate degree from a regionally accredited U.S. college or university, are required to submit official TOEFL scores taken within the year immediately preceding the requested semester of admission. A minimum total score of 83 is required, with minimum scores of 20 for each of the skills evaluated by the TOEFL: Listening, Reading, Speaking, Writing) An original copy of the test score, sent by the testing agency to the Office of Admissions is required before any action is taken on an application. The copy of the score provided to the student and subsequently forwarded is not acceptable;
• Personal statement/letter of interest emphasizing reasons for pursuing Dr.P.H. (700-1000 words);
• Current curriculum vitae or resume;

1 Applicants may be required to take prerequisite coursework prior to taking program concentration courses. Conditions of admission will be presented in the letter of acceptance to each student.

Non-degree Admission Requirements

An applicant may be admitted to the COGS as non-degree students to earn credit in Public Health graduate courses without working toward a Dr.P.H. Interested applicants should consult the Jack N. Averitt College of Graduate Studies for the types of Non-Degree admission as well as the requirements for admission in this category.

Applications for admission into the Dr. P.H. program will be based on a review of the applicant’s Graduate Record Examination scores, recommendations for successful graduate study, and previous academic training. The college also considers the compatibility of the student’s interest areas with those of the faculty and curriculum emphases. Admission is based on the totality of the applicant’s work, educational experience, recommendations, and other application data. A single application criterion will not be used to outweigh other criteria in making recommendations for admission.

Admission into the Dr. P.H. program requires a master’s degree in public health (M.P.H.) or an acceptable equivalent. Students should have master’s level grade point averages and Graduate Record Examination scores that are acceptable as determined by the faculty. Students who have not completed the public health core as part of their master’s degree must do so by taking an approved course in each of the following areas: biostatistics, environmental health sciences, epidemiology, health policy and management, and social and behavioral sciences.

Admission to the Dr.P.H. is highly selective to ensure that all accepted into the program have the potential to become effective practitioners and applied researchers.

NOTE: Prerequisite undergraduate course work may be required. Contact the Division Director in the Jiann-Ping Hsu College of Public Health for complete information.

Course Requirements

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<thead>
<tr>
<th>Public Health Core Courses (21 Credit Hours)</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>PUBH 8132 Environmental and Occupational Health</td>
<td>3</td>
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<tr>
<td>PUBH 8133 Epidemiologic Methods</td>
<td>3</td>
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<tr>
<td>PUBH 8134 Health Economics, Policy and the Political Process</td>
<td>3</td>
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<td>PUBH 8136 Theoretical Perspectives of the Social and Behavioral Sciences in Public Health</td>
<td>3</td>
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<td>PUBH 9130 Sampling Methodology</td>
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<td>PUBH 9132 Community-Based Research in Public Health</td>
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<td>PUBH 9135 Public Health, Funding and Grantsmanship</td>
<td>3</td>
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<tr>
<th>Advanced Courses in Biostatistics (27 Credit Hours)</th>
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<tr>
<td>BIOS 9130 Biostatistical Consulting</td>
<td>3</td>
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<tr>
<td>BIOS 9131 Advanced Statistical Theory for Biostatistics I</td>
<td>3</td>
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<tr>
<td>BIOS 9132 Advanced Clinical Trials</td>
<td>3</td>
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<tr>
<td>BIOS 9133 Advanced Statistical Theory for Biostatistics II</td>
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<td>BIOS 9134 Stochastic Process for Biological Systems</td>
<td>3</td>
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<td>BIOS 9135 Advanced Survival Analysis</td>
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Biostatistics Concentration Competencies

At the completion of the Dr.P.H. degree program all Biostatistics students will be able to:

- Demonstrate skills for translating objectives of a public health and biomedical research question into the appropriate biostatistical questions.
- Design a public health and biomedical investigation in terms of the experimental design, data to be collected to reflect research objectives, number of subjects needed to address the objectives, and specification of appropriate methods for analysis.
- Develop a theoretical foundation for commonly used topics in inferential statistics such as probability, sampling, discrete and continuous distributions and their moment generating functions, point and interval estimation, likelihood ratio tests, hypothesis testing, and nonparametrics found in advanced analyses of public health and biomedical studies.
- Compare Bayesian methods to frequentist methods for analyzing data.
- Evaluate a public health and biomedical research proposal to determine the more appropriate biostatistical analysis methodology, including Bayesian and frequentist approaches.
- Analyze public health and biomedical data via classical and Bayesian approaches using statistical software packages such as SAS, R/S-plus, and WinBUGS.
- Develop a protocol for performing meta-analyses of data to be collected to address a question requiring collection of summary data across several sources.
- Demonstrate use of meta-analytic methods for combining information across public health and biomedical studies.
- Apply meta-analysis to estimate the sources and magnitude of heterogeneity across public health and biomedical studies.
- Explain underlying theory in longitudinal data analyses of public health and biomedical studies.
- Analyze longitudinal data in public health and biomedical studies with appropriate longitudinal data analysis methods.
- Interpret analytic methods used throughout the literature in biostatistical and public health journals.
- Interpret results of classical and Bayesian biostatistical analyses so that valid and reliable conclusions regarding a public health and biomedical research question may be drawn from the analyses.
- Develop new ideas for applying existing biostatistical methods to applications in public health.