Master of Public Health
BIOSTATISTICS CONCENTRATION
2016—2017

The biostatistics (BSTP) concentration trains students to apply statistical principles and methods to problems in public health, medicine and biology. The program promotes analytic thinking and skills with an emphasis on applying research and evaluation to public health. Coursework in this concentration covers the span of biostatistics knowledge, including study design, data management, data analysis, interpretation, statistical reporting and the use of statistical software. Biostatistics concentration graduates are well prepared for employment in academia, government, nonprofits, non-governmental organizations and the private sector.

**MPH CORE REQUIREMENTS**  (16 credit hours)  
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH 7711</td>
<td>Epidemiologic Methods I</td>
<td>3</td>
</tr>
<tr>
<td>PH 7017</td>
<td>Fundamentals of Biostatistics I</td>
<td>4</td>
</tr>
<tr>
<td>PH 7140</td>
<td>Social &amp; Behavioral Aspects of Public Health</td>
<td>3</td>
</tr>
<tr>
<td>PH 7150</td>
<td>Environmental Health</td>
<td>3</td>
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<tr>
<td>PH 7160</td>
<td>Introduction to the Health Care System</td>
<td>3</td>
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**ADDITIONAL MPH REQUIRED COURSES**  (8 credit hours)  
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>PH 7019</td>
<td>Public Health Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>PH 7960</td>
<td>Public Health Practicum</td>
<td>2</td>
</tr>
<tr>
<td>PH 7990 or 7991</td>
<td>Public Health Thesis or Capstone</td>
<td>3</td>
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</tbody>
</table>

**Area Total:**  24

**CONCENTRATION**  (18 credit hours)

**Required BSTP Concentration Courses**  (12 credit hours)  
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>PH 7027</td>
<td>Fundamentals of Biostatistics II</td>
<td>3</td>
</tr>
<tr>
<td>PH 7525</td>
<td>Statistical Computing</td>
<td>3</td>
</tr>
<tr>
<td>PH 8820</td>
<td>Generalized Linear Models</td>
<td>3</td>
</tr>
<tr>
<td>PH 8830</td>
<td>Advanced Statistical Topics</td>
<td>3</td>
</tr>
</tbody>
</table>

**Concentration Elective Courses**  (6 credit hours)*

Select at least two courses.
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>PH 7028</td>
<td>Introduction to Probability Theory &amp; Statistical Inference</td>
<td>3</td>
</tr>
<tr>
<td>PH 8721</td>
<td>Epidemiologic Methods II</td>
<td>3</td>
</tr>
<tr>
<td>PH 8885</td>
<td>Fundamentals of Clinical Trials</td>
<td>3</td>
</tr>
<tr>
<td>PH 8890</td>
<td>Special Topics in Biostatistics (may be repeated)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Area Total:**  18

**Degree Total:**  42

*Elective Concentration Course. These pre-approved BSTP elective courses do not need further approval to satisfy the BSTP elective requirement. However, there are other programs at the university that may offer satisfying courses, including but not limited to the following: Mathematics & Statistics, Decision Sciences, Marketing, Sociology, Public Management & Policy, Psychology, and Educational Policy Studies. Other courses that may be approved to satisfy this elective requirement generally have course titles such as Structural Equation Modeling, Finite Mixture Modeling, Hierarchical Linear Modeling, Longitudinal Modeling, Survival Analysis, Bayesian Inference, Survey Sampling, Causal Inference, Missing Data or Nonparametric Statistics. Students should seek written pre-approval of any course not listed in the pre-approved BSTP elective courses above to count toward the BSTP elective requirement. Approval must come from both the division director and the Office of Academic Assistance.
BIOSTATISTICS CONCENTRATION EMPLOYMENT INFORMATION
2016–2017

Biostatistics involves the development and application of statistical techniques to scientific research in health-related fields, including medicine, epidemiology and public health, and includes statistical work in areas of environmental study, agricultural research and biology. Since the beginning of this century, biostatistics has become an indispensable tool in improving health and reducing illness.

Biostatisticians play essential roles in designing studies and analyzing data from research problems. They help formulate the scientific questions to be answered, determine the appropriate sampling techniques, coordinate data collection procedures and carry out statistical analyses to answer those scientific questions.

Biostatisticians with advanced degrees can look forward to excellent career opportunities in government, industry and academia. The shortage of biostatisticians is noted in “Objectives for the Nation” and the “Seventh Report to the President and Congress on the Status of Health Personnel in the United States.”

Common Job Titles: Public health professional with biostatistical expertise, Biostatistician, Statistician, Data Analyst, Health Statistician, Public Health Analyst and more.

Potential Salary Range: $53,947 – $91,391

Useful Links for Public Health Career and Internship Information
American Society for Quality – Statistics Division: asq.org/statistics
American Statistical Association: amstat.org
Association of Schools & Programs of Public Health: aspph.org
Centers for Disease Control & Prevention: jobs.cdc.gov
Eastern North American Region International Biometric Society: enar.org
Georgia Center for Nonprofits: gcn.org
Georgia Governor's Intern Program: gogov.georgia.gov/intern-program
Idealist: idealist.org
International Society for Clinical Biostatistics: iscb.info
Public Service Careers: publicservicecareers.org
This is Public Health: thisispublichealth.org
This is Statistics: thisisstatistics.org
University Career Services: career.gsu.edu
World of Statistics: worldofstatistics.org

POTENTIAL EMPLOYERS
Government:
• Centers for Disease Control & Prevention
• Department of Agriculture
• Department of Veterans Affairs
• Environmental Protection Agency
• Food & drug Administration
• National Institutes of Health
• State departments of public health

Academia:
• Emory University
• Georgia State University
• Morehouse School of Medicine
• University of Georgia

Industry:
• American Cancer Society
• Children's Healthcare of Atlanta
• Emory Healthcare
• Merck and Abbott Laboratories
• RAND Corporation
• RTI International

PROFESSIONAL DEVELOPMENT
• American Public Health Association
• American Statistical Association
• International Biometric Society
• International Society for Clinical Biostatistics
• International Statistical Institute
• Society for Prevention Research