BIOSTATISTICS, B.S. TO BIOSTATISTICS AND HEALTH ANALYTICS, M.S. ACCELERATED PROGRAM

Saint Louis University’s accelerated B.S. in biostatistics/M.S. in biostatistics and health analytics is designed for students who demonstrate academic success in the biostatistics major and related coursework.

This accelerated program enables biostatistics majors to obtain their undergraduate and master's degrees in five years; they then enter the workforce up to a year earlier than with a traditional two-year master's program. Students apply to the accelerated program during their fifth semester of collegiate study, and accepted students begin graduate coursework during senior year. Students retain undergraduate status, financial aid and tuition rates until their undergraduate degree is conferred after year four. At that time, students attain official graduate student status, pay graduate tuition, and become eligible for graduate assistantships.

The B.S. in biostatistics is offered through SLU’s College for Public Health and Social Justice, which is accredited by the Council on Education for Public Health. The degree uses the American Statistical Association's guidelines for undergraduate data health sciences.

For additional information see the catalog entries for the following programs:

Biostatistics, B.S.

Biostatistics and Health Analytics, M.S.

Admission

SLU students in the biostatistics major who meet the eligibility requirements may apply to this program in the fall semester of their junior year.

Eligibility requirements include:

- Students must be in their fifth semester of collegiate study.
- Students must have a minimum cumulative GPA of 3.00.
- Students must demonstrate a plan to complete 90 of the 120 credits required for their biostatistics major by the beginning of their fourth year of studies.
- Students must be eligible to complete the accelerated curriculum with no more than 15 credits during each semester during year four of the program.
- Students must be in good academic and disciplinary standing with Saint Louis University and the College for Public Health and Social Justice.
- Students must complete all BST and MATH courses at the 3000-level and below required for the BS in Biostatistics.

Application procedures and program details are outlined in the CPHSJ Undergraduate Public Health Student Handbook (https://sites.google.com/a/slu.edu/my-cphsj/home/undergraduate/undergraduate-public-health-programs/ugph-student-handbook/).

Requirements

The accelerated B.S./M.S. program allows students to use up to 15 graduate credits towards their undergraduate degree.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BST 3000</td>
<td>Intro to Statistical Computing</td>
<td>3</td>
</tr>
<tr>
<td>BST 3100</td>
<td>Applied Biostatistics I</td>
<td>3</td>
</tr>
<tr>
<td>BST 3200</td>
<td>Applied Biostatistics II</td>
<td>3</td>
</tr>
<tr>
<td>BST 4400</td>
<td>Introduction to Applied Data Management</td>
<td>3</td>
</tr>
<tr>
<td>PUBH 2100</td>
<td>Introduction to Global Health ♦</td>
<td>3</td>
</tr>
<tr>
<td>PUBH 3200</td>
<td>Evidence Based Public Health</td>
<td>3</td>
</tr>
<tr>
<td>PUBH 4100</td>
<td>Biological Basis of Public Health</td>
<td>3</td>
</tr>
<tr>
<td>BST 5961</td>
<td>Master’s Project</td>
<td>3</td>
</tr>
<tr>
<td>BST 5020</td>
<td>Theory of Biostatistics</td>
<td>3</td>
</tr>
<tr>
<td>BST 5025</td>
<td>Theory of Biostatistics II</td>
<td>3</td>
</tr>
<tr>
<td>BST 5100</td>
<td>Introduction to General Linear Modeling</td>
<td>3</td>
</tr>
<tr>
<td>PUBH 5030</td>
<td>Methodological Approaches to Understanding Population Health</td>
<td>3</td>
</tr>
</tbody>
</table>

Concentrations

Select one of the following: 18
- Traditional Biostatistics Concentration
- Geospatial Health Data Analytics Concentration
Electives
Select three courses from among the following: 9

- BST 5220 Multilevel and Longitudinal Data Analysis
- BST 5230 Bayesian Statistics
- BST 5420 Sampling Theory and Survey Design in Public Health
- BST 6100 Causal Inference
- GIS 5030 Geospatial Data Management
- GIS 5120 Geospatial Analytics
- SOC 5670 Spatial Demography: Applied Statistics for Spatial Data

Total Credits 147

Traditional Biostatistics Concentration

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>BST 5030</td>
<td>Statistical Programming and Study Planning: SAS</td>
<td>3</td>
</tr>
<tr>
<td>BST 5200</td>
<td>Survival Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>BST 5210</td>
<td>Categorical Data Analysis</td>
<td>3</td>
</tr>
<tr>
<td>BST 5500</td>
<td>Statistical Learning</td>
<td>3</td>
</tr>
</tbody>
</table>

Elective Courses
Choose three electives in consultation with mentor 9

Total Credits 21

Geospatial Health Data Analytics Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GIS 5010</td>
<td>Introduction to Geographic Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>BST 5600</td>
<td>R for Spatial Analysis</td>
<td>3</td>
</tr>
<tr>
<td>BST 5610</td>
<td>Spatial Epidemiology and Disease Mapping</td>
<td>3</td>
</tr>
<tr>
<td>BST 5620</td>
<td>Spatio-Temporal Models in Public Health</td>
<td>3</td>
</tr>
</tbody>
</table>

Elective Courses
Choose three electives in consultation with mentor 9

Total Credits 21

Courses and milestones designated as critical (marked with !) must be completed in the semester listed to ensure a timely graduation. Transfer credit may change the roadmap.

This roadmap should not be used in the place of regular academic advising appointments. All students are encouraged to meet with their advisor/mentor each semester. Requirements, course availability and sequencing are subject to change.

Years One to Three

<table>
<thead>
<tr>
<th>Year One</th>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Fall</td>
<td>BIOL 1240 &amp; BIOL 1245</td>
<td>General Biology: Information Flow and Evolution and Principles of Biology I Laboratory</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>ENGL 1900</td>
<td>Advanced Strategies of Rhetoric and Research</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>HIST 1110</td>
<td>Origins of the Modern World to 1500</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PUBH 2100 ‡</td>
<td>Introduction to Global Health</td>
<td>3</td>
</tr>
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</table>

Credits 14

Spring

<table>
<thead>
<tr>
<th>Year Two</th>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>BTM 2000</td>
<td>Introduction to Business Technology Management</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MATH 1520</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>PHIL 1050</td>
<td>Introduction to Philosophy: Self and Reality</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Language Level 1 or higher</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Social Science Elective</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Credits 16

Spring

<table>
<thead>
<tr>
<th>Year Three</th>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall</td>
<td>BST 3000</td>
<td>Intro to Statistical Computing</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MATH 2530</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>THEO 1000</td>
<td>Theological Foundations</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Language Level 2 or higher</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Literature, Fine Arts, or Performing Arts Elective</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Credits 16

Continuation Standards

- Cumulative GPA of at least 3.00 each semester
- Minimum grade of "B" in all graduate-level courses
- Minimum grade of "C" in all B.S. in Biostatistics major courses
- Minimum grade of "C-" in all core courses
- Minimum grade of "D" in all remaining general elective courses counting toward the minimum 120 credits required for graduation

Roadmap

Roadmaps are recommended semester-by-semester plans of study for programs and assume full-time enrollment unless otherwise noted.
### General Elective
- Credits: 3

### Spring
- Department reviews applications, conducts interviews, and qualified students are notified of acceptance.
- BST 3200: Applied Biostatistics II (3 credits)
- MATH 3110 or MATH 3120: Linear Algebra for Engineers or Introduction to Linear Algebra (3 credits)
- PHIL 2050: Ethics (3 credits)
- General Elective (3 credits)
- Social Science Elective (3 credits)

### Credits
- Total Credits: 15

### Traditional Biostatistics & Health Analytics Concentration

#### Year Four

##### Fall
- Formal participation in the Accelerated Program begins.
- Students maintain undergrad status and take a maximum of 15 credits.
- BST 4400: Introduction to Applied Data Management (3 credits)
- BST 5020: Theory of Biostatistics (3 credits)
- BTM 3300: Managing Databases and Big Data (3 credits)
- PUBH 5030: Methodological Approaches to Understanding Population Health (3 credits)
- Undergraduate Elective (3 credits)

### Credits
- Total Credits: 15

### Year Four

##### Spring
- Students take a maximum of 15 credits. B.S. degree is conferred in May.
- BST 5025: Theory of Biostatistics II (3 credits)
- BST 5600: R for Spatial Analysis (3 credits)
- PUBH 4100: Biological Basis of Public Health (3 credits)
- Undergraduate Elective (3 credits)

### Credits
- Total Credits: 15

### Year Five

##### Fall
- BST 5100: Introduction to General Linear Modeling (3 credits)
- BST 5610: Spatial Epidemiology and Disease Mapping (3 credits)
- Graduate Biostats Elective (3 credits)

### Credits
- Total Credits: 9

##### Spring
- BST 5620: Spatio-Temporal Models in Public Health (3 credits)
- BST 5961: Master’s Project (3 credits)
- Graduate Biostats Elective (3 credits)
- Graduate Biostats Elective (3 credits)

### Contact Us

For additional admission questions please contact:
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314-977-3934