**BIOSTATISTICS, B.S. TO HEALTH DATA SCIENCE, M.S. ACCELERATED PROGRAM**

Saint Louis University's accelerated B.S. in Biostatistics/M.S. in Health Data Science is designed for students who demonstrate academic success in the biostatistics major and related coursework. The B.S. in Biostatistics is offered through the 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.

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.

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


**Admission**

SLU students in the biostatistics major who meet the eligibility requirements may apply 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, and a mathematics/statistics GPA of 3.40.
- 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 & Social Justice.
- Students must demonstrate the potential for leadership in Biostatistics; this can be done through engagement in volunteer activities or work experience.

Application procedures and program details are outlined in the **CPHSJ Undergraduate Public Health 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 4100</td>
<td>Theory of Biostatistics I</td>
<td>3</td>
</tr>
<tr>
<td>BST 4200</td>
<td>Theory of 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>EPI 4000</td>
<td>Intro Epidemiology: Foundations &amp; Practice</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>
</tbody>
</table>

**General Elective Courses**

Select an additional 28 credits of general electives to achieve the minimum 120 credits for graduation.

**Graduate Courses**

Graduate requirements may change by the time the student is formally accepted into the program in junior year.

**Applied Statistics Courses**

- HDS 5310 Analytics and Statistical Programming 3
- HDS 5320 Inferential Modeling 3
- HDS 5330 Predictive Modeling and Machine Learning 3

**Practical Computing Courses**

- HDS 5210 Programming for Health Data Scientists 3
- HDS 5230 High Performance Computing 3
**Health Science Application Courses**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>HMP 5000</td>
<td>Health Care Organization</td>
<td>3</td>
</tr>
<tr>
<td>ORES 5210</td>
<td>Foundations of Medical Diagnosis and Treatment</td>
<td>3</td>
</tr>
<tr>
<td>ORES 5300</td>
<td>Foundations of Outcomes Research I</td>
<td>3</td>
</tr>
</tbody>
</table>

**Capstone Experience**

<table>
<thead>
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</thead>
<tbody>
<tr>
<td>HDS 5960</td>
<td>Capstone Experience</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Credits**: 147

‡ Fulfills the cultural diversity core requirement.

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**Continuation Standards**

- Cumulative GPA of at least 2.00
- Cumulative GPA of at least 3.00, with a MATH and BST GPA of 3.40 in order to participate in the graduate program
- 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

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**Roadmap**

Roadmaps are recommended semester-by-semester plans of study for programs and assume full-time enrollment unless otherwise noted.

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.

<table>
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<tr>
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<tbody>
<tr>
<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>ENGL 1900</td>
<td>Advanced Strategies Of Rhetoric and Research</td>
<td>3</td>
</tr>
<tr>
<td>HIST 1110</td>
<td>Origins of the Modern World to 1500</td>
<td>3</td>
</tr>
<tr>
<td>General Elective</td>
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<td>3</td>
</tr>
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</table>

**Year Two**

<table>
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<tr>
<td>BST 3000</td>
<td>Intro to Statistical Computing</td>
<td>3</td>
</tr>
<tr>
<td>MATH 2530</td>
<td>Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>THEO 1000</td>
<td>Theological Foundations</td>
<td>3</td>
</tr>
<tr>
<td>Language Level 2 or higher</td>
<td>Language Level 2 or higher</td>
<td>3</td>
</tr>
<tr>
<td>General Elective</td>
<td>General Elective</td>
<td>3</td>
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**Spring**

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<td>Evidence Based Public Health</td>
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<tr>
<td>General Elective</td>
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**Year Three**

- Eligible students formally apply to the Accelerated Program.

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<tr>
<td>MATH 3110</td>
<td>Linear Algebra for Engineers</td>
<td>3</td>
</tr>
<tr>
<td>MATH 3120</td>
<td>Introduction to Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 2050</td>
<td>Ethics</td>
<td>3</td>
</tr>
<tr>
<td>General Elective</td>
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**Spring**

Department reviews applications, conducts interviews, and qualified students are notified of acceptance.

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</tr>
<tr>
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**Year Four**

Formal participation in the Accelerated Program begins. Students maintain undergrad status and take a maximum of 15 credits.

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<td>3</td>
</tr>
<tr>
<td>HDS 5310</td>
<td>Analytics and Statistical Programming</td>
<td>3</td>
</tr>
<tr>
<td>ITM 3300</td>
<td>Database Management Systems</td>
<td>3</td>
</tr>
<tr>
<td>or CSCI 3710</td>
<td>or Databases</td>
<td>3</td>
</tr>
<tr>
<td>ORES 5300</td>
<td>Foundations of Outcomes Research I</td>
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**Spring**

Students take a maximum of 15 credits. B.S. degree is conferred in May.

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</tr>
<tr>
<td>HDS 5210</td>
<td>Programming for Health Data Scientists</td>
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‡ Fulfills the cultural diversity core requirement.
ORES 5210  Foundations of Medical Diagnosis and Treatment  3
PUBH 4100  Biological Basis of Public Health  3
Social Science Elective  3

Credits  15

Summer

Students are reviewed by the department and those in good academic standing officially earn graduate student status.

HDS 5320  Inferential Modeling  3

Credits  3

Year Five

Fall

HDS 5330  Predictive Modeling and Machine Learning  3

Credits  3

Spring

HDS 5230  High Performance Computing  3
HMP 5000  Health Care Organization  3

Credits  6

Summer

HDS 5960  Capstone Experience  3

Credits  3

Total Credits  135

‡  Fulfills the cultural diversity core requirement.

Refer to the B.S. in Biostatistics roadmap (http://catalog.slu.edu/colleges-schools/public-health-social-justice/undergraduate-programs/biostatistics-bs/#roadmaptext) for a list of approved English, fine arts, and social science classes.

Contact Us

Apply for Admission (http://www.slu.edu/admission/)

For additional admission questions please contact:
Katie Linnenbrink
Administrative Secretary
Tegeler Hall 300 West
314-977-3934