

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.

Code	Title	Credits
Required Core Courses ¹		
BIOL 1240 & BIOL 1245	General Biology: Information Flow and Evolution and Principles of Biology I Laboratory	4
BIOL 1260 & BIOL 1265	General Biology: Transformations of Energy and Matter and Principles of Biology II Laboratory	4
BTM 2000	Introduction to Business Technology Management	3
BTM 3300	Managing Databases and Big Data	3
ENGL 1900	Advanced Strategies of Rhetoric and Research	3
HIST 1110	Origins of the Modern World to 1500	3
HIST 1120	Origins of the Modern World (1500 to Present)	3
MATH 1510	Calculus I	4
MATH 1520	Calculus II	4
MATH 2530	Calculus III	4
MATH 3110	Linear Algebra for Engineers	3
	or MATH 3120 Introduction to Linear Algebra	
PHIL 1050	Introduction to Philosophy: Self and Reality	3
PHIL 2050	Ethics	3
THEO 1000	Theological Foundations	3
	Foreign Language proficient to 1020-level	6
	Literature, Fine Arts, or Performing Arts Elective	3
	Social Science Electives (Political Science, Psychology, Sociology, etc.)	6
Required Biostatistics Major Courses		
BST 3000	Intro to Statistical Computing	3
BST 3100	Applied Biostatistics I	3
BST 3200	Applied Biostatistics II	3
BST 4400	Introduction to Applied Data Management	3
PUBH 2100	Introduction to Global Health [‡]	3
PUBH 3200	Evidence Based Public Health	3
PUBH 4100	Biological Basis of Public Health	3
General Elective Courses		
	Select an additional 22 credits of general electives to achieve the minimum 120 credits for graduation.	22
Graduate Courses		
	Graduate requirements may change by the time the student is formally accepted into the program in junior year.	
<i>Required Core Graduate Courses</i>		
BST 5020	Theory of Biostatistics	3
BST 5025	Theory of Biostatistics II	3
BST 5100	Introduction to General Linear Modeling	3
PUBH 5030	Methodological Approaches to Understanding Population Health	3
BST 5961	Master's Project	3
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

Code	Title	Credits
BST 5030	Statistical Programming and Study Planning: SAS	3
BST 5200	Survival Data Analysis	3
BST 5210	Categorical Data Analysis	3
BST 5500	Statistical Learning	3
Elective Courses		
Choose three electives in consultation with mentor		9
Total Credits		21

Geospatial Health Data Analytics Concentration

Code	Title	Credits
GIS 5010	Introduction to Geographic Information Systems	3
BST 5600	R for Spatial Analysis	3
BST 5610	Spatial Epidemiology and Disease Mapping	3
BST 5620	Spatio-Temporal Models in Public Health	3
Elective Courses		
Choose three electives in consultation with mentor		9
Total Credits		21

¹ A total of 62 credits are required for completion of the core curriculum. Some core requirements have multiple options for satisfactory completion. A more detailed explanation of core curriculum requirements can be found in the *CPHSJ Undergraduate Public Health Student Handbook*.

‡ Fulfills the cultural diversity core requirement.

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.

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

Course	Title	Credits
Year One		
Fall		
BIOL 1240 & BIOL 1245	General Biology: Information Flow and Evolution and Principles of Biology I Laboratory	4
ENGL 1900	Advanced Strategies of Rhetoric and Research	3
HIST 1110	Origins of the Modern World to 1500	3
General Elective		3
General Elective		1
		Credits
		14
Spring		
BIOL 1260 & BIOL 1265	General Biology: Transformations of Energy and Matter and Principles of Biology II Laboratory	4
HIST 1120	Origins of the Modern World (1500 to Present)	3
MATH 1510	Calculus I	4
PUBH 2100	Introduction to Global Health ‡	3
		Credits
		14
Year Two		
Fall		
BTM 2000	Introduction to Business Technology Management	3
MATH 1520	Calculus II	4
PHIL 1050	Introduction to Philosophy: Self and Reality	3
Language Level 1 or higher		3
Social Science Elective		3
		Credits
		16
Spring		
BST 3000	Intro to Statistical Computing	3
MATH 2530	Calculus III	4
THEO 1000	Theological Foundations	3
Language Level 2 or higher		3
Literature, Fine Arts, or Performing Arts Elective		3
		Credits
		16
Year Three		
Fall		
! Eligible students formally apply to the Accelerated Program.		
BST 3100	Applied Biostatistics I	3
PUBH 3200	Evidence Based Public Health	3
General Elective		3
General Elective		3

General Elective	3
Credits	15
Spring	
Department reviews applications, conducts interviews, and qualified students are notified of acceptance.	
BST 3200 Applied Biostatistics II	3
MATH 3110 Linear Algebra for Engineers or MATH 3120 or Introduction to Linear Algebra	3
PHIL 2050 Ethics	3
General Elective	3
Social Science Elective	3
Credits	15
Total Credits	90

Traditional Biostatistics & Health Analytics Concentration

Course	Title	Credits
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
BST 5020	Theory of Biostatistics	3
BTM 3300	Managing Databases and Big Data	3
PUBH 5030	Methodological Approaches to Understanding Population Health	3
Undergraduate Elective		3
Credits		15
Spring		
Students take a maximum of 15 credits. B.S. degree is conferred in May.		
PUBH 4100	Biological Basis of Public Health	3
BST 5025	Theory of Biostatistics II	3
BST 5030	Statistical Programming and Study Planning: SAS	3
BST 5100	Introduction to General Linear Modeling	3
Undergraduate Elective		3
Credits		15
Year Five		
Fall		
BST 5200	Survival Data Analysis	3
BST 5210	Categorical Data Analysis	3
Graduate Biostats Elective		3
Credits		9
Spring		
BST 5500	Statistical Learning	3
BST 5961	Master's Project	3
Graduate Biostats Elective		3
Graduate Biostats Elective		3
Credits		12
Total Credits		51

Geospatial Health Data Analytics Concentration

Course	Title	Credits
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
BST 5020	Theory of Biostatistics	3
BTM 3300	Managing Databases and Big Data	3
GIS 5010	Introduction to Geographic Information Systems	3
PUBH 5030	Methodological Approaches to Understanding Population Health	3
Credits		15
Spring		
Students take a maximum of 15 credits. B.S. degree is conferred in May.		
BST 5025	Theory of Biostatistics II	3
BST 5600	R for Spatial Analysis	3
PUBH 4100	Biological Basis of Public Health	3
Undergraduate Elective		3
Undergraduate Elective		3
Credits		15
Year Five		
Fall		
BST 5100	Introduction to General Linear Modeling	3
BST 5610	Spatial Epidemiology and Disease Mapping	3
Graduate Biostats Elective		3
Credits		9
Spring		
BST 5620	Spatio-Temporal Models in Public Health	3
BST 5961	Master's Project	3
Graduate Biostats Elective		3
Graduate Biostats Elective		3
Credits		12
Total Credits		51

‡ Fulfills the cultural diversity core requirement.

Refer to the B.S. in biostatistics roadmap 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:

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