PHD IN BIOSTATISTICS AND DATA SCIENCE

The PhD in Biostatistics and Data Science degree program is a minimum 48 semester credit hours and emphasizes advanced statistical theory and application, statistical consulting and independent research and prepares students to be independent investigators in the development and application of biostatistical analyses to problems of human health and disease. Graduates of the program go on to assume senior statistical posts in governmental or private health research agencies, or pursue careers in teaching and research.

Special Entrance Requirements

Applicants to the PhD program should have mathematical training beyond the introductory calculus level, including advanced calculus and linear algebra. Preference will be given to applicants with coursework in more advanced mathematics as well as statistics. They should hold degrees in areas that emphasize the development of strong quantitative skills, such as, degrees in mathematical, biomedical, physical, or social sciences. For more information, see the Admissions section (https://catalog.uth.edu/public-health/admissions/).

Course of Study

The following courses are required for the PhD in Biostatistics and Data Science:

Code	Title	Hours
Required for all School of Public Health Students		
PH 101	Foundations of Public Health [1]	0
Leveling Courses [2]		**0**
PH 1630L	Introduction to R Programming for Biostatistics and Data Science	
PH 1631L	Introduction to Python Programming for Biostatistics and Data Science	
PH 1700L	Intermediate Biostatistics	
PH 1820L	Applied Linear Regression [3]	
PH 1821L	Applied Multivariate Analysis for Biostatistics [3]	
PH 1830L	Categorical Data Analysis [3]	
PH 1910L	Probability and Distribution Theory [3]	
PH 1975L	Introduction to Data Science	
PH 1976L	Fundamentals of Data Analytics and Predictions	
Major Courses		
PH 1831L	Survival Analysis [3]	3
PH 1911L	Statistical Inference [3]	3
PHD 1915L	Linear Models I [3]	3
PH 1916L	Generalized Linear Models	3
PHD 1930L	Statistical Computing	3
PHD 1950L	Stochastic Processes in Biostatistics I [3]	3
PH 1988	Biostatistics Seminar	1
Minor [4]		**9**
Second Minor or Breadth [4]		**9**
Electives [5]		**5**
Research Practice Experience		
PHD 1995	Research Practice Experience for Biostatistics Students	3
Dissertation		
PHD 9999	Dissertation Research	3
Total Hours		**48**

[1] Online, not-for-credit course

[2] Academic credits from leveling courses do not count towards the total required number of credits for the degree program.

[3] Students must successfully complete each course prior to sitting for the preliminary exam.

[4] Students are required to elect a minor outside of their department. Students should consult with their advisor and the minor's department for requirements. Students may choose to complete a breadth or second minor. Students who do not elect an epidemiology minor must complete a three (3) credit hour epidemiology course as part of the breadth (2500-2999). Students who do complete an epidemiology minor must complete a three (3) credit hours course outside of both epidemiology and biostatistics for the breadth. Students who choose to complete a breadth should consult with their advisor to determine which courses are most appropriate for their academic and professional goals. Students who choose to complete a second minor should consult with their advisor and the minor's department for requirements.

[5] Students are required to complete a minimum of 5 credit hours of electives from any biostatistics course above the 1700L level that is not already required on the degree planner. Students should consult with their advisor when selecting elective courses coursework appropriate for the student's research and career goals.

For sample course of study, see the PhD in Biostatistics and Data Science degree planner (https://web.sph.uth.edu/student-forms/Academic_Requirements/Degree%20Programs%20%26%20Planners/Planner.PhD.BIOS.2024-2025.docx).