BIOSTATISTICS, M.S.

A minimum of 44 credit hours is required for the Master of Science with a major in Biostatistics. Students are required to have two semesters of calculus or will be expected to make up the deficit beyond the minimum program of study. Additional courses may be required to meet prerequisites or to accommodate electives. All department core courses must be passed with a grade of "B" or better. Failure to do so will necessitate repeating the course; these courses can only be repeated once. Course requirements are given below.

Learning Outcomes

- Students will demonstrate the ability to evaluate a given health related problem and to identify the most appropriate statistical technique (e.g., t-test, contingency table, correlation) for analysis.
- Students will demonstrate the ability to interpret the results of a statistical analysis and to communicate such interpretations in an easily comprehendible manner.
- Display a mastery of traditional and newly developed statistical techniques, including multi-variable methods for continuous and categorical data analysis.
- Students will demonstrate the ability to use statistical software packages to obtain, manage, and analyze public health data.
- Students will demonstrate the ability to finish a thesis and communicate the results.

Requirements

School of Public Health Core (3 Hours)

Course	Title	Credits
PUBH 700	Perspectives in Public Health	3
Total Credit Hours		**3**

Department Core (16 Hours)

Course	Title	Credits
BIOS 701	Concepts and Methods of Biostatistics	3
EPID 701	Concepts and Methods of Epidemiology	3
BIOS 745	Seminar in Biostatistics	1
BIOS 757	Intermediate Biostatistics	3
BIOS 758	Advanced Linear Models in Biostatistics	3
BIOS 709	Basic Software for Public Health	1
BIOS 711	Introduction to R Programming	1
BIOS 712	Introduction to Stata Software	1
Total Credit Hours		**16**

Major Courses (16 Hours)

Course	Title	Credits
BIOS 746	Introduction to Complex Survey Data Analysis	1
BIOS 759	Theory and Methods of Discrete Data Analysis	3
BIOS 761	Survival Analysis	3
BIOS 770	Applied Longitudinal Data Analysis	3
STAT 512	Mathematical Statistics	3
STAT 513	Theory of Statistical Inference	3
Select one of the following: [1]		3
BIOS 760	Biostatistical Methods in Clinical Trials	
BIOS 765	Research Design in the Biomedical Sciences	
BIOS 775	Biostatistical Aspects of Bioinformatics	
BIOS 780	Introduction to Quantile Regression	
BIOS 811	Survival Analysis II	
BIOS 815	Generalized Linear Models	
BIOS 820	Bayesian Biostatistics and Computation	
BIOS 825	Multivariate Biostatistics	
EPID 741	Intermediate Epidemiologic Methods	
STAT 518	Nonparametric Statistical Methods	
STAT 519	Sampling	
Total Credit Hours		**19**

[1] The student may choose an elective from outside of this list, with the permission of their advisor.

Thesis (6 Hours)

Course	Title	Credits
BIOS 799	Thesis Preparation	6
Total Credit Hours		**6**