DATA MODELING AND ANALYTICS FOR HEALTH, MS

Overview

The Master of Science (MS) in Data Modeling and Analytics for Health is designed to prepare graduates with advanced knowledge and applied skills in extracting, managing, and interpreting complex data for decision-making across diverse fields. This interdisciplinary program integrates statistical modeling, data analytics, and database management with practical applications in public health, genomic, and medical data. Students will gain expertise in designing and implementing data models, applying modern analytic techniques, and using tools such as R, SAS, STATA, and SQL to address real-world problems. Emphasis is placed on both the technical and critical thinking skills needed to transform raw data into actionable insights.

Requirements And Plan of Study

The MS Degree in Data Modeling and Analytics for Health requires a total of 31 credits that includes:

Degree Requirements

Course ID	Title	Credits
Public Health Foundational Coursework		**9**
SPHL 6020	Foundations in Public Health (*)	
SPHL 6050	Biostatistics for Public Health	
SPHL 6060	Epidemiology for Public Health	
Required Program Courses		**15**
BIOS 6290	Data Management and Statistical Computing	
BIOS 6220	Database Management	
BIOS 7000	Comparative Analysis: Parametric and Non-Parametric Methods	
BIOS 7020	Data Modeling with Regression	
BIOS 7030	Supervised and Unsupervised Methods	
Selectives (Choose 2 in consultation with Advisor)		**6**
BIOS 7110	Time-to-event and Longitudinal Data Analysis	
BIOS 7130	Mediation, Moderation and Multivariate Methods	
BIOS 7140	Sampling and Clinical Trials Methods	
SPHL 6110	Introduction to GIS for Public Health	
SPHL 6070	Health Systems Policy and Management	
Thesis		
BIOS 9980	Master's Thesis Research	1
Total Credit Hours		**31**

*Students who receive a BSPH degree can waive SPHL 6020 and replace the 3 credits with an elective course.

MS Thesis (BIOS 9980; 1 credit)
The MS thesis is the culminating experience of the MS in Data Modeling and Analytics for Health program, allowing students to integrate and apply the knowledge and skills acquired throughout their coursework. Working individually, students will engage in a comprehensive, real-world project that addresses a complex data-driven problem drawn from industry, government, healthcare, or academic research.

MS in Data Modeling and Analytics for Health Model Schedule for Fall Entry

Year 1		
Fall		**Credit Hours**
SPHL 6050	Biostatistics for Public Health	3
BIOS 6290	Data Management and Statistical Computing	3
SPHL 6020	Foundations in Public Health	3
	Credit Hours	**9**
Spring		
BIOS 7000	Comparative Analysis: Parametric and Non-Parametric Methods	3
BIOS 7020	Data Modeling with Regression	3
BIOS 6220	Database Management	3
	Credit Hours	**9**

Summer Session		
SPHL 6060	Epidemiology for Public Health	3
	Credit Hours	**3**
Year 2		
Fall		
BIOS 7030	Supervised and Unsupervised Methods	3
BIOS 9980	Master's Thesis Research	1
2 of the following electives (BIOS 7110, BIOS 7140, BIOS 7130)		6
Selective 1		
Selective 2		
	Credit Hours	**10**
	Total Credit Hours	**31**

Accelerated MS Program Model Schedule

Year 1		
Fall		**Credit Hours**
Fall Semester, Senior Undergraduate		
SPHL 6050	Biostatistics for Public Health	3
BIOS 6290	Data Management and Statistical Computing	3
	Credit Hours	**6**
Spring		
Spring Semester, Senior Undergraduate		
BIOS 7020	Data Modeling with Regression	3
	Credit Hours	**3**
Summer Session		
SPHL 6060	Epidemiology for Public Health	3
SPHL 6020	Foundations in Public Health (/Elective*)	3
*If BSPH student		
	Credit Hours	**6**
Year 2		
Fall		
BIOS 7030	Supervised and Unsupervised Methods	3
Any 2 of the following courses (BIOS 7140, BIOS 7130, BIOS 7110)		
Selective 1		3
Selective 2		3
	Credit Hours	**9**
Spring		
BIOS 9980	Master's Thesis Research	1
BIOS 6220	Database Management	3
BIOS 7000	Comparative Analysis: Parametric and Non-Parametric Methods	3
	Credit Hours	**7**
	Total Credit Hours	**31**

Program String and Field of Study: PHMS_GR, DMAH

Contact

To learn more about the program, visit https://sph.tulane.edu/bios/ms-data-modeling.