

**University of South Florida, College of Public Health,
Department of Epidemiology & Biostatistics**

BIostatISTICS: MSPH

The goal of the MSPH Program in Biostatistics is for students to acquire a thorough understanding of biostatistical methods, and to apply them to research focusing on public health related problems. The program prepares students to fulfill a primary or shared responsibility for the handling of quantitative and computational aspects of a research project, ranging from study design, data collection and management, developing analysis plans, and conducting analyses and reporting findings. The program provides students with knowledge in statistical theory and computational methods as applied to public health research. The intended audience of the program includes individuals with a strong quantitative background and interests in pursuing a research career as a biostatistician. Through advanced coursework and the thesis, students develop mastery in at one or more statistical methods related to their thesis research area.

Competencies: Upon graduation a student with an MSPH should be able to...

1. Apply biostatistical methods to the design of experimental and observational studies with respect to sample selection, randomization, and power.
2. Apply common probability distributions to public health outcomes.
3. Use statistical techniques including descriptive statistics, data exploration, estimation, hypothesis testing, and modeling.
4. Demonstrate programming and data management skills and use common statistical software packages for data analysis.
5. Communicate effectively to public health practitioners in terms of formulating research problems and interpreting statistical results.
6. Conduct independent research involving the application of biostatistical methods to a health research problem.
7. Critique statistical and public health literature.
8. Demonstrate knowledge of ethical issues related to the use of biostatistics in health research.
9. Develop written and oral presentations based on statistical analyses.
10. Describe public health problems in terms of magnitude, person, time and place, and demonstrate knowledge and understanding of risk factors and their relationship to health outcomes.
11. Demonstrate knowledge and understanding of public health issues.

Association between the courses and the competencies for MSPH in Biostatistics

Competencies											
Core Courses(9)	1	2	3	4	5	6	7	8	9	10	11
PHC6000										√	√
PHC6058		√	√								
PHC6102											√
PHC6357											√
PHC6410					√						√
Concentration Courses (18)											
PHC6053			√								
PHC6051			√								
PHC6060	√				√	√			√		
PHC6020	√						√	√			
PHC6055		√									
PHC6010										√	√
Elective Courses (12)											
PHC6701				√							
PHC6934			√								
PHC6190				√							
PHC6054	√							√			
PHC6056	√										
PHC6907						√	√				
Culminating Experiences(6)											
PHC6971						√		√	√		

The courses for MSPH with concentration in Biostatistics

College Core Courses			Total needed	9	
PHC	6000	Epidemiology		3	
PHC	6058	Biostatistical Inference I		3	
And one of the following:					
PHC	6102	Principles of Health Policy and Management		3	
PHC	6357	Environmental and Occupational Health		3	
PHC	6410	Social and Behavioral Sciences Applied to Health		3	
Required Concentration Courses			Total needed	18	
PHC	6053	Categorical Data Analysis			
PHC	6051	Biostatistics II			
PHC	6060	Case Studies and Collaboration			
PHC	6020	Design and Conduct of Clinical Trials			
PHC	6055	Survival Analysis			
PHC	6010	Epidemiology Methods I			
Electives Courses (some examples)			Total needed	12	
PHC	6701	Computer Applications for Public Health Researchers			
PHC	6934	Linear Model Analysis of health Data			
PHC	6190	Public Health Data Base Management			
PHC	6054	Design and Analysis of experiments for Health Researchers			
PHC	6907	Independent Study			
Culminating Experiences			Total needed	6	
PHC	6971	Thesis			