

## EPIDEMIOLOGY: MSPH

The MSPH program in Epidemiology is an academic degree, geared toward students who want a solid foundation in research methods and who wish to become members of a public health epidemiologic research team. Related to health promotion, disease prevention and control, students acquire knowledge and skills in study design, data management, analysis and interpretation of study results. A thesis involving primary or secondary data analysis is required.

**Competencies:** In addition to the overall Master of Science in Public Health degree competencies, graduates with a concentration in Epidemiology will:

### *Epidemiologic Principles and Methods*

1. Describe and discuss the history and theory of epidemiology.
2. Identify, describe and discuss the public health problems in terms of magnitude, person, time and place.
3. Assess, synthesize and critically evaluate epidemiologic scientific literature.
4. Compare and contrast uses and limitations of experimental and observational study designs in epidemiology.
5. Design a cross-sectional, cohort and case-control study to address a public health problem.
6. Demonstrate proficiency in epidemiologic principles of infectious and chronic disease research.
7. Critically evaluate risk factors and their relationships to health outcomes including the evaluation of bias and effect modification.
8. Demonstrate proficiency in basic and intermediate epidemiologic methods and principles.

### *Data Management and Statistical Analysis*

9. Demonstrate mastery of data management and processing and SAS programming skills.
10. Demonstrate proficiency in the analysis of continuous, categorical and time to event data and interpretation of results.

### *Practice of Epidemiology*

11. Identify, discuss and apply ethical principles to the design, collection, use and dissemination of epidemiologic data.
12. Conduct an independent research project including hypothesis generation, review of the epidemiologic literature, data management, analysis, interpretation and written and oral communication of findings.

### Association between Department courses and the competencies for MSPH in Epidemiology

		MSPH Competencies											
Course Title		1	2	3	4	5	6	7	8	9	10	11	12
<b>Core Courses (9 hours)</b>													
PHC 6000	Epidemiology	√	√		√	√	√	√	√			√	
PHC 6050	Biostatistics I										√		
<b>Concentration Courses (30 hours)</b>													
PHC 6051	Biostatistics II										√		
PHC 6010	Epidemiology Methods I	√	√					√	√		√		
PHC 6011	Epidemiology Methods II			√				√	√		√		
PHC 6xxx	Epidemiology Methods III				√	√			√			√	
PHC 6701	Computer Applications for Public Health									√			
PHC 6190	Public Health Database Management									√			
PHC 6053	Categorical Data Analysis										√		
PHC 7935	Intermediate SAS									√	√		
PHC 6934	Secondary Data Analysis									√	√		
PHC 6055	Survival Analysis										√		
<b>Elective Courses (9 hours)</b>													
PHC xxxx	Disease Epidemiology Course	√	√	√		√	√	√					
PHC xxxx	Disease Epidemiology Course	√	√	√		√	√	√					
PHC xxxx	Additional EPB Elective	√	√	√									
<b>Culminating Experiences (6 hours)</b>													
PHC 6971	Thesis			√					√			√	√