

EPIDEMIOLOGY, MS

The MS in Epidemiology is an academic degree that prepares students for careers in research. It serves students new to public health as well as those currently working in the field who wish to gain the quantitative skills necessary to conduct population based research. The curriculum focuses on understanding theoretical issues and applying disciplinary methods to the study of public health problems. Coursework includes learning experiences in epidemiologic methods, biostatistics, data management, analysis and interpretation of findings in content areas such as chronic or infectious disease, reproductive, molecular, or genetic epidemiology. Students learn the design, conduct, analysis and interpretation of epidemiological studies, and implementation, from developing protocols and instruments, to the selection and recruitment of subjects, data collection and quality control. These skills prepare graduates for engaging roles in research activities that impact public health planning, control and global disparities.

Program Competencies

- Define the concepts and contents of epidemiology.
- Formulate a research hypothesis.
- Determine study aim, objectives and appropriate study design to address the hypothesis.
- Identify risk and/or preventive factors that may contribute to outcomes and incorporate them into a research study.
- Use computers to collect, manage and analyze data for evaluation of hypotheses.
- Evaluate the use of questionnaires and measurement instruments in collection of data to maintain internal validity.
- Use existing databases to provide background or supportive data to address research questions.
- Analyze data, interpret the findings and prepare a report of study result.
- Perform ethical research.

Requirements

The MS Degree in Epidemiology requires 42 credits that includes:

Course ID	Title	Credits
Epidemiology Course Requirements		
SPHL 6020	Foundations in Public Health	3
SPHL 6060	Epidemiology for Public Health	3
EPID 6230	Computer Packages for Epidemiology	2
EPID 7000	Departmental Seminar	1
EPID 7120	Epidemiologic Methods II	3
EPID 7130	Observational Epidemiology	3
EPID 7220	Analytic Epidemiology	3
Epidemiologic Methods Course Requirements		
Select 5-6 credits of the following:		5-6
EPID 6290	Genetic Epidemiology	3
EPID 6340	Clinical and Translational Research Methods	3
EPID 6350	Implementation Science in Public Health	3
EPID 6420	Clinical Epidemiology	3
EPID 6500	Nutritional Epidemiology	3
EPID 6750	Outbreak Epidemiology	3
EPID 7110	Spatial Epidemiology	3
EPID 7160	Survey Methodology	3
EPID 7170	Clinical Trials: Design, Conduct & Interpretation	3
EPID 7310	Meta-Analysis	3
EPID 7410	Pharmacoepidemiology	2
Descriptive Epidemiology Course Requirements		
Select two of the following:		6
EPID 6090	Epidemiology of Infectious Diseases	3
EPID 6210	Cancer Epidemiology	3
EPID 6220	Cardiovascular Disease Epidemiology	3

EPID 6320	Molecular Epidemiology	3
EPID 6480	Reproductive Epidemiology	3
EPID 6600	Social Epidemiology: Mechanisms of Disparities	3
EPID 7210	Epidemiology of Sexual Health	3
EPID 7810	Human Molecular Genetics	3
Biostatistics Course Requirements		
SPHL 6050	Biostatistics for Public Health	3
BIOS 6040	Intermediate Biostatistics	3
Electives		6

Academic Standards

In addition to the SPHTM academic standards, students in the MS in Epidemiology program and those taking advanced epidemiology courses must demonstrate the following standards:

- All students must complete and earn a "B" or better in the prerequisite foundational course, SPHL 6060 Epidemiology for Public Health, before advancing to EPID 7120 Epidemiologic Methods II or other advanced epidemiology courses.

Thesis

Students must successfully complete a thesis. The thesis is based on a supervised research project demonstrating scholarship in the area of epidemiology. The results will be presented orally and in writing and reviewed by two faculty members. The master's thesis must be completed within a year of completion of the required courses. It should be an academic investigation suitable for publishing.

MS in Epidemiology Model Course Schedule

Year 1		Credit Hours
Fall		
SPHL 6050	Biostatistics for Public Health	3
SPHL 6060	Epidemiology for Public Health	3
SPHL 6020	Foundations in Public Health	3
EPID 6230	Computer Packages for Epidemiology	2
EPID 7000	Departmental Seminar	1
Credit Hours		12
Spring		
BIOS 6040	Intermediate Biostatistics	3
EPID 7120	Epidemiologic Methods II	3
Descriptive Epidemiology Courses or Electives		6
Credit Hours		12
Summer Session		
EPID 9910	Epidemiology Research Experience	0
Credit Hours		0
Year 2		
Fall		
EPID 7130	Observational Epidemiology	3
EPID 7220	Analytic Epidemiology	3
Descriptive Epidemiology Courses or Electives		6
EPID 9980	MS Thesis Research	0
Credit Hours		12
Spring		
Electives		6
EPID 9980	MS Thesis Research	0
Credit Hours		6
Total Credit Hours		42