

Clinical Investigation, MS

Requirements

The Master of Science in clinical investigation requires 37 s.h. of graduate credit. In addition to completing the program's required coursework, students must write a manuscript or a grant proposal for a National Institutes of Health (NIH) career award or its equivalent, with oral defense. Graduate students must maintain a Graduate College program grade-point average of at least 3.00. Those who receive a grade of C in 7 s.h. of coursework may be dismissed from the program.

The program, which is offered in collaboration with the university's Institute for Clinical and Translational Science, is designed for clinicians interested in pursuing careers in clinical research. It includes in-depth training in biostatistics, epidemiology, research ethics, and academic survival skills as well as didactic training applicable to clinical research careers. Graduates of the program are able to critically evaluate clinical literature, write competitive grant proposals, design and conduct clinical research projects, work effectively with other researchers and support staff, and disseminate research results through manuscripts and presentations.

The MS in clinical investigation requires the following coursework.

Core Courses

All core courses except CPH:6100 and CPH:7270 must be taken on an A-F graded basis. Students must retake CPH:7270 if they completed the course more than four years ago or if they have changed degree programs.

Course #	Title	Hours
All of these (25 s.h.):		
BIOS:4120	Introduction to Biostatistics	3
BIOS:5120	Regression Modeling and ANOVA in the Health Sciences	3
EPID:4400	Epidemiology I: Principles	3
EPID:5500	Introduction to Clinical Epidemiology	3
EPID:5610	Intermediate Epidemiology Data Analysis With SAS and R	3
EPID:6150	Writing for Medical Journals	1
EPID:6400	Epidemiology II: Advanced Methods	4
EPID:6950	Clinical Research Ethics	2
CPH:6100	Essentials of Public Health	2
CPH:7270	Principles of Scholarly Integrity: Public Health (taken first year in the fall and spring semesters for 0 s.h. and 1 s.h., respectively)	1

Capstone Requirement

While a student does not take a final examination of courses, the evaluation of the student for graduation is based upon a positive review of a mentored K or R grant or a mentored publishable research paper. The grant or paper is completed

in the second year of the program and is based on the area of focus. The capstone is a mentored activity that requires approval by a clinical mentor and a Department of Epidemiology primary faculty member. Successful completion of the course is denoted with a satisfactory (S) grade. The complete grant or paper will be due no later than one month prior to graduation for review.

Course #	Title	Hours
EPID:6000	Independent Study in Epidemiology	2

Electives

Students must earn a minimum of 10 s.h. in elective coursework from any of the following content areas.

Course #	Title	Hours
Research Design and Communication		

EPID:5214	Meta-Analysis of Epidemiologic Studies	3
EPID:6100	Writing a Grant Proposal	3
EPID:6900	Design of Intervention and Clinical Trials	3
EPID:6910	Pharmacoepidemiology and Comparative Effectiveness Research	3

Community Studies

CBH:5235	Community-Based Participatory Research	3
CBH:5305	Evaluation: Approaches and Applications	3
CBH:6205	Designing and Implementing Interventions	3
EPLS:5165	Introduction to Program and Project Evaluation	3

Epidemiology

EPID:5560	Biomarkers in Epidemiology	3
EPID:5570	Zoonotic Diseases	3
EPID:6510	Injury Epidemiology	3
EPID:6550	Epidemiology of Infectious Diseases	3
EPID:6560	Hospital Epidemiology	2
EPID:6600	Epidemiology of Chronic Diseases	3
DPH:6004	Principles of Oral Epidemiology	3
SEES:3110	Geography of Health	3

Health Services Epidemiology

EPID:6360	Nutrition Intervention in Clinical Trials Research	2
EPID:6655	Causal Inference	3
EPID:6920	Applied Administrative Data Analysis	2
BIOS:6610	Statistical Methods in Clinical Trials	3
BIOS:7600	Advanced Biostatistics Seminar	3
PCOL:5136	Pharmacogenetics and Pharmacogenomics	1

Informatics

EPID:5600	Introduction to Epidemiology Data Management and Analysis	3
HMP:5315	Health Information Systems	3
Nutrition Science		
EPID:6330	Global Nutrition Policy	2-3
EPID:6350	Nutritional Epidemiology	2
EPID:6370	Nutrition Intervention in Research Lab	3
Outcomes and Health Services Research		
HMP:5410	Health Economics I	3
HMP:7550	Cost Effectiveness and Decision Analysis	3
HMP:7960	Analytic Issues in Health Services Research I	3
HMP:7965	Analytic Issues in Health Services Research II	3
Pharmacy Science		
PHAR:5310	Health Services Research Seminar	1
PHAR:5350	Introduction to Research Methods	3
PHAR:6305	Foundation Literature in Health Services Research	3
Statistical Methods		
BIOS:6210	Applied Survival Analysis	3
BIOS:6310	Introductory Longitudinal Data Analysis	3
Translational Biomedicine		
TBM:5001	Introduction to Translational Biomedicine	3