# Epidemiology, MS

## Requirements

The Master of Science (MS) in epidemiology requires at least 39 s.h. of graduate credit and is offered with or without thesis. Students who choose to complete the degree without thesis must satisfy a final examination requirement; see the following section titled "Qualifying Examination for the MS Without Thesis." All students must maintain a Graduate College program grade-point average of at least 3.00.

Courses taken for the core, human pathology, and elective requirements must be taken on an A–F graded basis unless otherwise noted. Students must seek the permission of the program to apply coursework with grades of C or C-minus toward these three requirements. Students who receive a grade of C or lower in 7 s.h. of coursework may be dismissed from the program.

The MS in epidemiology requires the following coursework.

## Core Courses

CPH:6100, CPH:7270, EPID:5950, and EPID:7000 may be taken on an S/U basis.

Students must retake CPH:7270 Principles of Scholarly Integrity: Public Health if they completed the course more than four years ago or if they changed degree programs.

| Course # | Title | Hours |
|---|---|---|
| All of these: | | |
| EPID:4400 | Epidemiology I: Principles | 3 |
| EPID:5600 | Introduction to Epidemiology Data Management and Analysis | 3 |
| EPID:5610 | Intermediate Epidemiology Data Analysis With SAS and R | 3 |
| EPID:6400 | Epidemiology II: Advanced Methods | 4 |
| BIOS:4120 | Introduction to Biostatistics | 3 |
| BIOS:5120/ IGPI:5120/ STAT:5610 | Regression Modeling and ANOVA in the Health Sciences | 3 |
| CPH:6100 | Essentials of Public Health | 2 |
| CPH:7270 | Principles of Scholarly Integrity: Public Health (taken first year in the fall semester for 0 s.h. and in the spring semester for 1 s.h.) | 0-1 |
| One of these: | | |
| EPID:6510/ OEH:6520 | Injury Epidemiology | 3 |
| EPID:6550/ GHS:6550 | Epidemiology of Infectious Diseases | 3 |
| EPID:6600 | Epidemiology of Chronic Diseases | 3 |
| One of these: | | |
| EPID:5950 | Preceptorship in Epidemiology (for nonthesis students) | 3 |
| EPID:7000 | Thesis/Dissertation (for thesis students) | 3 |

## Human Pathology Requirement

Students must complete a human pathology course for 3 s.h. Most students choose to enroll in HHP:4390 Understanding Human Disease. Alternatively, students with a strong biosciences background may choose to enroll in PATH:5270 Pathogenesis of Major Human Diseases if it better complements their training plan; this is an advanced course that requires a strong foundation in molecular biology and related disciplines but may be suitable for some students.

## Electives

Students must earn a minimum of 8 s.h. in elective coursework numbered 4000 or above, at least 6 s.h. of which must be from epidemiology courses (prefix EPID) excluding EPID:5925. The remaining 2 s.h., selected in consultation with the student's advisor, may be taken in an epidemiology course or other graduate coursework pertinent to the student's educational goals and background.

With the program's permission, students completing a thesis may exceed the required minimum in EPID:7000 Thesis/ Dissertation and apply up to an additional 3 s.h. toward elective credits, for a total maximum of 6 s.h. in the course. This course may be taken on an S/U graded basis.

The following courses outside of epidemiology can also be counted toward the elective requirement. With the permission of their advisor, students may be able to select additional courses not listed here.

| Course # | Title | Hours |
|---|---|---|
| BIOS:6210/ IGPI:6210 | Applied Survival Analysis | 3 |
| BIOS:6310/ IGPI:6310/ STAT:6550 | Introductory Longitudinal Data Analysis | 3 |
| CBH:5220 | Health Behavior and Health Education | 3 |
| HMP:4000 | Introduction to the U.S. Health Care System | 3 |
| OEH:4240 | Global Environmental Health | 3 |

## Other Requirements

### Epidemiology Journal Club

In addition to the courses previously listed, students are required to enroll in EPID:5925 Epidemiology Journal Club: Evaluating the Literature three times (typically the fall and spring semesters of their first year and the fall semester of their second year). Through the course, students gain experience reading, interpreting, and critically evaluating recently published journal articles.

Full-time students enroll in EPID:5925 for 0 s.h. Students enrolled part-time (less than 9 s.h.) who have a graduate research assistantship appointment may choose to register for 1 s.h., however, the credit earned for this course will not be applied toward the minimum semester hours required for the MS in epidemiology.

Every other week during the academic year, the journal club meets to discuss articles of interest in the field. Contact information for the journal club coordinators can be found on the Department of Epidemiology website under Preceptorship, Journal Club, and Seminar Contacts. Information about the

schedule is distributed to students each semester. Students are required to achieve at least 80% attendance at journal club for three semesters during their time in the program.

## Department of Epidemiology Seminar

Every week during the academic year, the Department of Epidemiology seminar provides a forum for speakers to present information or research pertaining to diverse topics in epidemiology. Contact information for the seminar coordinators is located on the Department of Epidemiology website under Preceptorship, Journal Club, and Seminar Contacts. Information about the schedule is distributed each semester and is also available on the University of Iowa Events Calendar. Students are expected to achieve at least 80% attendance at the seminar during each semester of enrollment.

## Scientific Poster Requirement

Every student is required to present at least one scientific poster at the department level and is encouraged to present at the international, national, regional, state, or university level at some point prior to graduation. A student’s advisor or thesis/preceptorship mentor can help determine the suitability and timeline for the poster presentation.

For nonthesis students, this poster requirement takes the place of an oral seminar presentation as part of the preceptorship requirement. Nonthesis students would typically formulate preceptorship research into a poster presentation, though the requirement may be met by a poster presentation of other research, such as from an independent study or research related to employment.

For thesis students, the poster requirement is in addition to the oral seminar presentation requirement for the thesis. Thesis students would typically formulate thesis research into a poster presentation, though the requirement may be met by a poster presentation of other research, such as from an independent study or research related to employment. The poster must be submitted for review to the student’s advisor or thesis/preceptorship mentor a minimum of 10 days before the poster session. A Department of Epidemiology poster session is held at the end of the fall and spring semesters.

## Qualifying Examination for the MS Without Thesis

The qualifying examination is a written in-class exam covering the competencies expected for Master of Science graduates. It specifically covers material from the following core courses: EPID:4400 Epidemiology I: Principles, EPID:6400 Epidemiology II: Advanced Methods, and BIOS:5120 Regression Modeling and ANOVA in the Health Sciences. This exam is offered twice per year.

Students who earn a grade of B or higher in each of the three courses addressed on the exam are not required to take the exam.

## Master's Thesis Defense for the MS With Thesis

The master’s thesis defense is an oral presentation of the purpose, methods, and results of the thesis research. A specially formed committee thoroughly examines a student's area of knowledge associated with the context of the work. The goal of the thesis is a document that is publishable in a peer-reviewed journal.

## Seminar Presentation for the MS With Thesis

In addition to the thesis defense, students are strongly encouraged and may be required by the thesis committee chair to make a presentation at a Department of Epidemiology seminar. It is recommended that students complete the seminar presentation and thesis defense in the same semester, with the seminar presentation scheduled before the master's thesis defense so the seminar can serve as preparation for the defense.