



Student Handbook

Doctor of Philosophy (PhD)

AY 2019-2020

Revised July 2019

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The SPH Student Handbooks are static documents which are updated each June. The degree requirements contained in the AY 2019-2020 Handbooks are applicable to students matriculating into a degree program during this academic year. Students should consult the SPH website if interested in curriculum revisions adopted during the year. Such changes will apply to the next year's entering class.

PHD OVERVIEW

The Doctor of Philosophy (PhD) degree in Public Health Sciences is an academic degree awarded by the Graduate College of the University of Illinois and is subject to the requirements described in the UIC Graduate Catalog. (For this degree program, the School of Public Health acts as the Department of Public Health Sciences (DPHS) of the Graduate College.) The program develops scholars capable of conducting research and teaching in the public health sciences. The program also prepares students for research careers in governmental, private, and voluntary organizations. Programs of study leading to a PhD (in Public Health Sciences) may be taken in one or more of the Divisions of the School of Public Health:

1. Community Health Sciences
2. Environmental and Occupational Health Sciences
3. Epidemiology and Biostatistics
4. Health Policy and Administration

Interdisciplinary studies that combine two or more of these areas are encouraged.

The PhD program consists of six components:

1. SPH School-wide Core Course Requirements
 - IPHS 520: Foundation of Public Health
 - BSTT 400: Biostatistics I*
 - BSTT 401: Biostatistics II*
 - EPID 403: Introduction to Epidemiology: Principles and Methods

*Not required for PhD students in the Biostatistics concentration
2. Divisional Course Requirements and Electives – (variable based on chosen Division).
3. The Preliminary Examination
4. Dissertation Research Requirements
 - IPHS 599 PhD Dissertation Research Hours (minimum of 32 SH)
 - Examinations:
 - a. Dissertation Proposal Defense
 - b. Dissertation Defense
5. Instructional Experience
6. Required Non-Credit Training
 - a. Information Privacy and Security (IPS)
 - b. Human Subjects Research
 - c. SPH Academic Integrity Tutorial
 - d. Title IX Training

The Division of Environmental and Occupational Health Sciences and Epidemiology –Occupational and Environmental Epidemiology has a more rigorous revision that is listed below. All programs are pending campus approval Fall 2019.

Conditional Admission Policy Statement: Under special circumstances, an applicant may be recommended by a Division for admission on a conditional basis (e.g., completion of preparatory course work). The conditions under which a student is admitted to the School are to be stipulated in writing by the director of the Division recommending admission of the student. Conditionally admitted students must satisfy the conditions prior to graduation (or earlier if so specified by the Division).

Change in Division: If a student's interest's change after admission or the student determines that professional goals would be better achieved in a division different from the one originally assigned please contact the Academic Coordinator in the home division to initiate the process to Request for Change of Degree.

Students requesting a division change must meet the requirements of the division they wish to enter. Admission to the new division is not guaranteed.

Degree Completion Time Limitations:

- **7 years:** A student who is admitted to the Graduate College with a master's degree, or who continues in the Graduate College after completing the master's degree at the University of Illinois at Chicago, must complete the degree requirements within seven years after initial registration as a doctoral student. 32 SH of credit from a relevant master's program will be credited toward the 96 SH degree requirements.
- **9 years:** A student who is admitted to the Graduate College without a master's degree and proceeds directly to the doctorate must complete degree requirements within nine years of initial registration as a doctoral student.

The Director of Graduate Studies (DGS) will periodically review the progress of doctoral candidates. If the DGS determines that the student is not making satisfactory progress toward the degree, the student may be recommended for dismissal from the program.

Time spent on a leave of absence approved by the program and the Graduate College is not counted toward the degree time limit (see the Leave of Absence section of the Academic Policies and Procedures Handbook).

Preliminary Examination Time Limitation: Failure to complete the degree requirements within five years of passing the preliminary examination requires retaking the examination. Graduate College rules require that a minimum of one year elapse after passing the preliminary examination, before defending the dissertation.

PROGRAM OF STUDY

Coursework

The curriculum is individually designed to meet the interests and goals of the student. PhD students without an MPH degree will be required to take an introductory public health course. Introductory courses in biostatistics and epidemiology are required in the PhD program, if not previously completed at the master's level**. (These requirements may be waived if justified on the basis of equivalent prior experience or course work.) The division of credit hours between course work and dissertation research is highly dependent on the background of each student. At a minimum, students must complete 9 SH in formal 500 series courses in a major area of concentration (not necessarily in one division). [Note: The 595 seminar series may not be counted towards fulfillment of this requirement.] If required by the chosen division, the student must also complete 6 SH in a collateral area. Course work must be designed to assure preparation for the preliminary examination and subsequent doctoral research. Course work does not, however, usually dominate the PhD program.

** Biostatistics majors are required to take an introductory epidemiology course and advanced biostatistics courses; see BSTT PhD Curricular Chart.

After admission to the PhD program, the student is assigned a major advisor with interests and expertise compatible with the student's goals. Together, the student and advisor develop an overall program of study which is approved by the Division Director and the Graduate College. The approved program proposal form shall be submitted prior to the completion of the second semester of study. Revised proposals may be submitted thereafter.

The student is encouraged to utilize any of the resources of The University of Illinois at Chicago plus those in neighboring institutions. (See description of the Chicago Metropolitan Exchange Program.) The primary requirement is that a meaningful, cohesive, health-directed, research-oriented program be constructed.

Students may use Independent Study (IPHS 596) to satisfy elective hours. Up to 9 semester credit hours (SH) of independent study may be credited toward the PhD program.

Instructional Experience

Each PhD student is required to obtain experience in classroom teaching. The teaching experience for doctoral candidates should at minimum consist of planning, leading and evaluating a minimum of two classroom sessions, which may be online or in-class sessions. If students are clear that they will be pursuing a career in academe, they should be encouraged by their advisors to go beyond this minimum.

All PhD students' efforts should be supervised and evaluated by appropriate faculty. Documentation should accompany this evaluation so that PhD students are clearly rated on their efforts at planning, teaching, and evaluating the students in their classes. Efforts of students who are laboratory or teaching assistants should be considered vital teaching experiences as long as there is appropriate evaluation of such efforts by faculty and students. It is the responsibility of the student and his or her faculty advisor to make sure the student's instructional experience is properly evaluated.

PhD program proposal forms include areas for the date and description of the student's teaching

experience. The expected term for satisfying this requirement should be identified at the initial submission of the program proposal, and, if known, a description of the proposed teaching experience. A revised program proposal must be submitted to the student's advisor near the graduation term (if not required earlier as a result of other changes to the student's program) reflecting a brief description of the instructional experience.

Students with relevant and appropriate prior teaching experience may petition to waive this requirement. At a minimum, the prior teaching experience should meet the criteria identified above.

The Preliminary Examination

The Preliminary Exam is a rigorous test of the student's knowledge and understanding of his/her chosen program of study, and the ability to apply such knowledge to the field of his/her specialization.

Timing: The preliminary examination should be undertaken as soon as possible after completion of the required program of study.

Committee Selection: Prior to sitting for the preliminary examination, the student selects* a Preliminary Examining Committee with the assistance and approval of the major advisor. It consists of a minimum of five members, of whom at least three (3) are UIC Graduate College faculty with full membership and two (2) of whom must be tenured, who have interest and expertise in the student's major and collateral areas. The Chair of the Committee must be a full member of the UIC Graduate College Faculty. If a collateral area is required, at least one member must represent the student's collateral area. Up to two of the members may be selected from outside the DPHS or UIC. The committee must be approved by the Graduate College. The committee works with the student until the preliminary examination is completed.

The preliminary examination consists of two parts-a written part prepared for the individual student by the examining committee, and an oral part administered by the committee sitting together with the student. These parts will be separated by no more than four weeks. In the case where the student has failed the written portion of the examination, the Committee may elect not to give the oral examination.

The written questions will cover broad conceptual issues and problems, providing the principal (but not necessarily exclusive) focus of the oral examination. At the discretion of the Division the format and scheduling of the written exam may vary, but will include the following information:

- Core principles, concepts, and approaches in the general area of specialization.
- Basic knowledge of the facts and current status of the discipline of specialization.
- Problem-solving, applying principles and facts to issues in the area of specialization.
- Collateral area principles, facts, and problem-solving.

The oral examination may consist of further discussion and elaboration of the answers to the written questions and/or any other relevant topics raised by the examiners.

*Some programs and concentrations have standing Preliminary Exam committees.

The evaluation of the student's performance will result in one of several findings:

Pass - This finding indicates that the student is progressing satisfactorily in the acquisition of knowledge and understanding in the elected area of specialization. The student is, as a consequence, encouraged to

proceed with additional specialized course work and to begin preparatory work on the dissertation topic. Passing this examination formally admits the student to PhD candidacy.

Fail - This finding indicates that the student is deficient in knowledge of the elected area of specialization and may lead to either of two consequences. The student may be required to withdraw from the PhD program, or may be asked to retake the examination after completion of deficiency-oriented course work. The Preliminary Examining Committee and Division Director have jurisdiction for remedial programming, but dismissal will be the prerogative of the Director of Graduate Studies for DPHS with the advice of the Executive Committee. The decision may be appealed to the Dean. The Dean, on the recommendation of the Committee, may permit a second examination. A third examination is not permitted.

The Preliminary Examining Committee certifies the results and reports them to the Graduate College.

The Dissertation Phase

Dissertation Committee Selection: After successfully completing the preliminary examination, the student, in conjunction with the major advisor, will select a dissertation chair and Dissertation Examining Committee. This committee consists of five (5) members, at least two (2) of whom must be tenured full members of the Graduate College faculty, and one who is from outside the Division. The dissertation advisor, who must be from the student's division, serves as chair of the committee and must be a member of the Graduate College faculty. The Graduate College must approve the Committee composition.

Dissertation Committee Functions: The Dissertation Committee is responsible for guiding the student's research and helping to assure successful performance during the Dissertation Proposal Defense and ultimately the Dissertation Defense.

The PhD candidate should work with his/her Committee chair to set an introductory meeting of the Committee during which the expected intellectual contributions of each Committee member are discussed and decided upon.

The student and committee members should also decide upon the frequency of meetings, optimal communication methods, expected timeframe for developing and completing the dissertation and scheduling examinations, faculty availability during summer months, and other guidelines and mutual expectations for the sharing and review of the student's work.

It is highly recommended that the PhD student at the point of beginning work on his or her thesis or dissertation obtain a copy of the Graduate College Thesis Manual.

The Dissertation Proposal

Dissertation Proposal Elements: The Dissertation Proposal typically consists of the first three chapters of the dissertation: Chapter 1. Introduction or Broad Overview of the Proposed Research; Chapter 2. Literature Review; Chapter 3. Methodology.

Dissertation Proposal Defense: The Dissertation Proposal Defense, given orally by the Dissertation Examining Committee, serves two primary functions:

- To ascertain whether the student is adequately prepared to pursue the dissertation topic. If deficiencies are discovered, additional course work may be required.
- To indicate to the student whether the Dissertation Examining Committee feels that the proposed research is feasible and whether the research should result in a useful, satisfactory product within the time and resources available.

The Dissertation Proposal Defense should not put the student into a pass-fail situation. Rather, it should, when necessary, guide the student into a more feasible and/or fruitful research plan. It is the responsibility of the student to complete the PhD Dissertation Proposal Approval Form, and after obtaining the signatures of the committee submit the document to the division Academic Coordinator for processing. A "pass" constitutes a contract between the Examining Committee and the student that all major elements of the research proposal have been identified and agreed to.

Research and Dissertation Format

The student's research is carried out under the guidance of a dissertation advisor and the Dissertation Committee. The research may take any or a combination of many forms: field, laboratory, or computer applications are some examples. The research must be creative and original, advancing a field of public health by adding significant new knowledge, testing current theory, or leading to a new theory.

Completion of the assigned research credit does not guarantee an acceptable dissertation; additional research effort may be necessary.

The dissertation may be presented in the traditional thesis format or may consist of manuscripts (typically three) of publishable quality with respect to peer-reviewed journals. The specific requirements for both are to be established by the dissertation committee in accordance with Graduate College requirements.

The manuscript format typically follows, but is not limited to, the chapter outline below:

1. Introduction – this chapter includes the over-arching theme(s) and hypotheses which tie the papers together and a review of the relevant literature;
2. Methods – a description of the methods of data collection and analysis;
3. The manuscripts
 - a) Paper #1
 - b) Paper #2
 - c) Paper #3
4. Conclusions – a discussion of the results and findings, and the impact of the research, in both specific as well as broad thematic terms;
5. Appendices – these include, as appropriate, such items as survey instruments, foundational tables, organizational charts, additional tables, and other items not appropriate for a journal article nor the body of the thesis document.

The manuscript format must conform to the Graduate College Thesis Manual and be approved by the iThenticate review process *prior* to the defense. The dissertation manuscript must be transmitted to the Dissertation Committee **at minimum three (3) weeks prior** to the Dissertation Defense for review; the iThenticate report must be delivered to the committee at a date prior to the defense.

Dissertation Defense: Both a final examination and dissertation presentation is required. This typically takes the following format.

1. The candidate must first submit a Committee Recommendation Form to the Graduate College no less than three (3) weeks prior to the defense date. Upon approval, the Graduate College will send an Examination Report to the student's program for use at the defense.
2. The candidate then presents his/her findings at an open meeting of faculty, students, and the Dissertation Committee.
3. Immediately following the open session the committee meets with the student in closed session. This is followed by an executive session of just the Dissertation Committee to deliberate the final outcome.
4. Finally, the Dissertation Examining Committee report to the Graduate College via the Examination Report form that the student has or has not passed his/her examination and thus has or has not satisfied all requirements for the PhD degree.

Final Formatting of Dissertation: It is the student's and advisor's responsibility to assure the final dissertation format meets the requirements of the Graduate College Thesis Manual. A final draft will be reviewed and approved by the SPH Director of Graduate Studies and the Graduate College, or returned to the student for further editing.

Upon receipt of a properly formatted thesis, the Director of Graduate Studies will recommend the student to the Graduate College for award of the degree.

PROGRESS REPORTING

PhD students are required to report on progress at least annually. The progress report includes a student self-assessment of academic progress, including evidence of his/her progress and an assessment of the student's progress by the student's advisor (before the preliminary examination) or research committee (after the preliminary examination). Prior to the preliminary examination, progress reports must be submitted to the Office of Student Affairs by October 1 each year. After the preliminary examination, progress reports must be submitted to the Office of Student Affairs by October 1 and March 1 of each year. Progress reports will be reviewed by the Committee on Academic Progress. Students placed on Academic Probation for failing to maintain a Grade Point Average (GPA) of 3.0 on a 4.0 scale, should refer to the SPH Academic Policies and Procedures Handbook.

After the preliminary examination, students will be placed on Academic Probation at the first report of "lack of progress." A second report of "lack of progress" will result in dismissal from the program.

Students have the opportunity to discuss all reviews in person with the Director of Graduate Studies (DGS), if requested by the student. In the event that the student's advisor is the DGS, a suitable third party (e.g., the division director, Associate Dean for Academic Affairs, or other senior professor) should lead the discussion. The student will have an opportunity to provide written feedback to the formal review. All of the above will be retained in the student's academic file. These requirements represent minimum requirements; programs may further require additional items.

THE PHD CURRICULUM BY DIVISION

Biostatistics – PhD

The PhD in Biostatistics program requires a minimum of 96 semester hours (SH). This program includes the following course requirements:

Note: PhD students majoring in Biostatistics must take any required MS courses whose equivalent they have not taken previously.

School-Wide Core Requirements (min. 38 SH)

Course	Title	Credits
EPID 403	Introduction to Epidemiology: Principles and Methods*	3 SH
IPHS 520	Foundations of Public Health (required for all PhD students without an MPH degree).	3 SH
IPHS 599	PhD Dissertation Research	min. 32 SH
Required Non-Credit Training		
Information Privacy & Security (https://about.citiprogram.org/en/homepage) IPS Register for the University of Illinois, Chicago		Non-credit
Human Subjects Research (https://about.citiprogram.org/en/homepage) HSR Register for the University of Illinois, Chicago		Non-credit
Academic Integrity Tutorial		Non-credit
Title IX Training		Non-credit

(*If not taken previously)

Divisional Core Requirements (22 SH)

Course	Title	Credits
BSTT 560	Large Sample Theory	2 SH
BSTT 561	Advanced Statistical Inference	3 SH
BSTT 562	Linear Models	4 SH
BSTT 565	Computational Statistics (every Fall)	4 SH
BSTT 595	Seminar	1 SH

Selectives (8 SH)

Select at least two of the following (minimum 8 SH):

- BSTT 563 Generalized Linear Models (spring, even #d yrs.)(4 SH)
- BSTT 564 Missing Data (spring, odd #d yrs.)(4 SH)
- BSTT 566 Bayesian Methods (fall, odd #d yrs.) (4 SH)
- BSTT 567 Advanced Survival Analysis (spring, odd #d yrs.)(4 SH)

Electives (4 SH):

Electives can be any graduate level course of the students choosing. BSTT 400, BSTT 401, BSTT 410, BSTT 505, BSTT 523, BSTT 524, and BSTT 525 are not suitable electives.

*Students with a master's degree in public health or a related area may receive up to 32 SH of credit towards the 96 SH total.

Doctoral Preliminary Examination in Biostatistics

The written exam includes both in-class and take-home portions. The in-class portion is scheduled for 4 hours, while students have 1 week to complete the take-home portion. Material for the exam is based primarily on the 500-level biostatistics courses as well as the required statistics courses. The oral examination follows the written examination (within one month) and may re-examine students based on the answers to the written portion or include additional material based on required coursework.

Standards of Performance for Biostatistics Program

Students in Biostatistics are allowed only one grade of C in required courses. A student who receives two Cs in required courses will not be allowed to graduate from the program. A student may re-take a course one time and attempt to replace the C with a higher grade.

Community Health Sciences – PhD

The PhD in Community Health Sciences program requires a minimum of 96 semester hours (SH), although more hours are often necessary. PhD students in Community Health Sciences are required to select a major area of concentration relevant to community health and obtain advisor approval in all course selections. For students selecting a PhD in Maternal and Child Health, there are additional requirements; see page 15. The PhD in Community Health Sciences includes the following course requirements:

School-Wide Core Requirements (32-35 SH)

Course	Title	Credits
IPHS 520	Foundations of Public Health (required for all PhD students without an MPH degree).	3 SH
IPHS 599	PhD Dissertation Research	min. 32 SH
Required Non-Credit Training		
Information Privacy & Security (https://about.citiprogram.org/en/homepage) IPS Register for the University of Illinois, Chicago		Non-credit
Human Subjects Research (https://about.citiprogram.org/en/homepage) HSR Register for the University of Illinois, Chicago		Non-credit
Academic Integrity Tutorial		Non-credit
Title IX Training		Non-credit

Divisional Core Requirements (20-24 SH)

Seminar Courses (2 SH total)		
Course	Title	Credits
*CHSC 595	Doctoral Seminar (1 SH; take 2 semesters)	2 SH

*In the event that appropriate CHSC 595 options are not available, this requirement may be filled by taking appropriate sections of IPHS 595.

In addition, PhD students in the Community Health Sciences are required to take courses from three specific areas: 1) Community Health Sciences Theory and Methods, 2) Advanced Research Methods, and 3) Advanced Analytic Methods. Choose a minimum of six (6) SH from each course list:

Community Health Sciences Theory and Methods Courses (6 SH total)		
Course	Title	Credits
CHSC 550	Advanced Concepts in Community Health Sciences	3 SH
CHSC 551	Foundations of Public Health Inquiry	3 SH

Advanced Research Methods Courses (6 SH minimum)		
Course	Title	Credits
Select 6 SH minimum from the following courses:		
CHSC/PA 447	Survey Planning and Design	3 SH
CHSC/PA 577	Survey Questionnaire Design	3 SH
CHSC 588	Research Synthesis and Meta-Analysis	3 SH
CLJ 560	Quantitative Methods and Design	4 SH

CLJ 561	Qualitative Methods and Design	4 SH
ED 501	Data and Interpretation in Educational Inquiry	4 SH
HPA 522	Public Health Research Design and Methods	3 SH
NUEL 548	Methodological Issues for Cross-Cultural Research	3 SH
NUEL 562	Primary Health Care Research Methods	3 SH
PSCH 533	Advanced Community and Prevention Research	3 SH
PSCH 534	Community and Preventive Intervention Theory	3 SH
PA 528	Public Program Evaluation	4 SH
PA 540	Research Design for Public Administration	4 SH
PA 582	Survey Data Collection Methods: Theory and Practice	4 SH
UPP 461	Geographic Information Systems for Planning	4 SH
UPP 588	Research Design and Evaluation	4 SH

Advanced Analytic Methods Courses (6 SH minimum)		
Course	Title	Credits
Select 6 SH minimum from the following courses:		
CHSC/EPID 518	Epidemiology or Pediatric Diseases	3 SH
CHSC 534	Management and Analysis of Qualitative Data	3 SH
CHSC/EPID 549	Advanced Applied Methods in MCH Epidemiology	3 SH
EPID 404	Intermediate Epidemiologic Methods	4 SH
EPID 501	Advanced Quantitative Methods in Epidemiology	4 SH
HPA 557	Measurement in Health Services Research	3 SH
PSCH 545	Multivariate Analysis	3 SH
PA 541	Advanced Data Analysis I	4 SH
PA 542	Advanced Data Analysis II	4 SH
PA 588	Applied Survey Sampling and Analysis	4 SH
POLS/PPA 501	Data Analysis II	4 SH

Note: Substitutions for courses in the Advanced Research Methods and Advanced Analytic Methods lists may be possible with approval from your faculty advisor in conjunction with the CHS Assistant Director for Academic Services.

Additional Required Courses

The following courses must be taken if equivalent coursework was not completed in the student's master's program:

- BSTT 400 Biostatistics I (4 SH)
- BSTT 401 Biostatistics II (4 SH)
- CHSC 446 Research Methods in Community Health (3 SH)
- EPID 403 Introduction to Epidemiology: Principles and Methods (3 SH)

Note: Students in the PhD program in Maternal and Child Health need to discuss these requirements with their advisor.

Concentration Electives (minimum of 12 SH)

Select 12 SH in an approved concentration area; at least 9 SH must be 500-level courses. The 595 seminar series may not be counted towards fulfillment of this requirement. Note: Students must

complete the number of electives necessary to bring total program hours to a minimum of 96 credit hours.

Note: Students with a master's degree in public health or a related area may receive up to 32 SH of credit towards the 96 SH total. The 32 SH of credit will apply to the required 37-44 elective hours.

Preliminary Examination Requirements

The Preliminary Examination is an important milestone for PhD Students. Successful completion of the exam indicates that the student is ready to progress to work on the dissertation research. Students must undertake their Preliminary Examination within one year after completion of the coursework in their required program of study. Students wishing to undertake their Preliminary Examination at a different time must petition the Doctoral Studies Committee. Students must complete the degree within 5 years after taking the Preliminary Examination or they must retake the exam.

Instructional Experience

Each PhD student is required to obtain experience in classroom teaching. The teaching experience for doctoral candidates should consist of planning, leading and evaluating a **minimum of two classroom sessions**, which may be online or in-class sessions. If students are clear that they will be pursuing a career in academe, they should be encouraged by their advisors to go beyond this minimum.

Optional Program - Maternal and Child Health

Admission Requirements and Relationship to CHS Curriculum

- Standard CHS admission criteria, plus an interest in MCH expressed as MCH-oriented career goals, MCH practice/research experience and/or publications, MCH research interests.
- Standard CHS Divisional pre-requisites if no MPH; standard CHS core theory and methods courses, advanced methods and analytic requirements, using MCH courses in these areas to meet some of these requirements.

If you are interested in the MCH PhD or you have questions, contact Arden Handler, Director of Center of Excellence (CoE) in MCH at handler@uic.edu.

Overview of Program Requirements

A minimum of 96 semester hours of credit, including up to 32 credits transferred from a Master's degree and 32 credits for dissertation research. Students who waive courses must still accumulate 96 credits to graduate, but the total may be reached with additional research hours or methods courses.

MCH PhD Scholar Curriculum

You will follow the CHS PhD curriculum with the following adaptations:

1. Two of three MCH core courses if no MPH in MCH:

Course	Title	Credits	Term Offered
CHSC 511	MCH Delivery Systems*	4	Spring
CHSC 543	MCH Policy and Advocacy*	3	Fall
CHSC 595	MCH Seminar*	1	Fall

*If have MPH in MCH, MCH core courses are not required.

2. One MCH oriented analytic course **OR** one MCH oriented methods course as part of meeting your CHS analytic and methods requirements.

Course	Title	Credit	Term Offered
CHSC/EPID 518	Epidemiology of Pediatric Diseases**	3	TBA
CHSC/EPID 548	Readings in Reproductive and Perinatal Epidemiology**	3	TBA
CHSC/EPID 549	Advanced Applied Methods in MCH Epidemiology **	3	TBA

***EPID 404 is a prerequisite for CHSC/EPID 518, CHSC/EPID 548, and CHSC/EPID 549.*

3. One-Two MCH electives (List of possible electives below). If it meets your needs and interests, you can consider one of the CHSC-MCH core courses as an elective as well.

4. Participation in MCH PhD Journal Club (encouraged)

MCH PhD students host a journal club once a month. All MCH PhD students are strongly encouraged to attend and present.

Please note: MCH PhD students are eligible to participate in the Chicago Metropolitan Exchange Program of the Graduate College to take relevant courses at Northwestern University and the University of Chicago.

Financial Aid

To the extent possible, we offer financial support upon admission to doctoral students when they express a strong MCH interest in their application (personal statement, work experience, recommendations). Subsequent financial aid awards require that the student submit a proposal and a statement of how their planned courses will prepare them for MCH research.

Possible MCH Electives:

Course	Title	Credits
CHSC 534	Management and Analysis of Qualitative Data	3 SH
CHSC 554	International Women's Health: Current and Emerging Issues	3 SH
CHSC 577	Survey Questionnaire Design	3 SH
CHSC 584	Community Organizing for Health	3 SH
CHSC 586	Health Behavior Interventions	3 SH
CHSC 594	Sexuality, Reproduction, Gender, and Violence	2 SH
EPID 594	Epidemiology of Sexually Transmitted Infections	3 SH
EPID 594	Social Epidemiology	3 SH
GWS 501	Feminist Theories	4 SH
GWS 502	Feminist Knowledge Production	4 SH
GWS 515	Psychology of Women and Gender	3 SH
GWS 547	Race, Class, and Gender Dimensions of Crime and Justice	4 SH
NUEL 570	International Dimensions in Women's Health	3 SH

MCH PhD Student Professional Development

JOURNAL CLUB

MCH PhD students host a journal club once a month. All MCH PhD students are invited to attend.

CAREER DEVELOPMENT AND WORK LEADERSHIP & MANAGEMENT TRAINING

- Students will be required to attend 1-2 workshops/events that are sponsored by career services or by the CoE-MCH
 - *SPH Career and Professional Development Workshops:* Each year the UIC SPH Office of Student Affairs hosts career and professional development workshops and events.
<http://publichealth.uic.edu/career-services/career-events>
 - *CoE-MCH Professional Development Workshop:* Each semester the CoE-MCH will host a workshop that covers various management topics/skills. MCHEPI students are strongly encouraged to attend. Examples of some workshops include: Project Management, Grant Writing, Effective Collaborations and Partnerships, Effective Communication Skills, Mindfulness, and Work/Life Balance. These workshops will be advertised through the MCH listserv.
- *SPH Career Services:* Once a year each MCH PhD student is required to meet individually with a staff member from the SPH career services office to discuss career goals.

TEACHING/RESEARCH TRAINING

- UIC SPH Office of Research Services host several trainings throughout the year. MCH PhD students will be required to attend at least 2 sessions during their academic careers.
- It is suggested that all MCH PhD students take the “Foundations of Teaching” course that is offered through UIC Graduate College (<http://grad.uic.edu/foundations-college-teaching-course-gc-593>), or an equivalent course if they are interested in a career in academe.

INSTRUCTIONAL EXPERIENCE

Each PhD student is required to obtain experience in classroom teaching. The teaching experience for doctoral candidates should consist of planning, leading and evaluating a ***minimum of two classroom sessions***, which may be online or in-class sessions. If students are clear that they will be pursuing a career in academe, they should be encouraged by their advisors to go beyond this minimum.

Environmental and Occupational Health Sciences – PhD

The PhD in Environmental and Occupational Health Sciences program requires a minimum of 96 semester hours (SH). Students must complete a minimum of 9 SH in formal 500 series courses in major area of concentration (not necessarily in one division). Students must also complete 6 SH in a collateral area. Note: The 595 seminar series may not be counted towards fulfillment of this requirement.

The Division of Environmental and Occupational Health Sciences has a more rigorous revision that is listed below. This program is pending campus approval Fall 2019.

This program includes the following course requirements *:

School-Wide Core Requirements (min. 46 SH)

Course	Title	Credits
BSTT 400*	Biostatistics I	4 SH
BSTT 401*	Biostatistics II	4 SH
EPID 403*	Introduction to Epidemiology: Principles and Methods	3 SH
IPHS 520	Foundations of Public Health (required for all PhD students without an MPH degree).	3 SH
IPHS 599	PhD Dissertation Research	min. 32 SH

Required Non-Credit Training

Information Privacy & Security (https://about.citiprogram.org/en/homepage) IPS Register for the University of Illinois, Chicago	Non-credit
Human Subjects Research (https://about.citiprogram.org/en/homepage) HSR Register for the University of Illinois, Chicago	Non-credit
Academic Integrity Tutorial	Non-credit
Title IX Training	Non-credit

*If not previously taken at the masters level

Divisional Core Requirements (21-22 SH)

Course	Title	Credits
EOHS 401	Ethics and Justice in Environmental and Occupational Health	2 SH
EOHS 402	Systems Approaches to Environmental and Occupational Health	4 SH
EOHS 501	Exposure Assessment Strategies	3 SH
EOHS 502	Environment, Toxicology, and Disease	4 SH
EOHS 495	Seminar in Environmental and Occupational Health Science (1 semester)	1 SH
EOHS 556	Risk Assessment for Environmental and Occupational Health	3 SH
EOHS 595	PhD Seminar in EOHS (enrollment to be repeated at least four semesters) (4 SH total)	1 SH
Methods selective: Students should select one course from the following lists of courses in qualitative or quantitative methods; to be selected according to academic needs and research activities:		

1. Qualitative Methods		
Course	Title	Credits
CHSC 534	Management And Analysis of Qualitative Data	3 SH
CLJ 561	Qualitative Methods and Design	4 SH
DHD 546	Qualitative Methods in Disability Research	4 SH
NUEL 544	Qualitative Research in Nursing	4 SH
PSCH 531	Community Research	3 SH
2. Quantitative Methods		
Course	Title	Credits
BSTT 537	Longitudinal Data Analysis	4 SH
EPID 500	Applied Epidemiologic Methods	4 SH
EPID 501	Adv. Quant Methods Epidemiology	4 SH
IE 442	Design and Analysis of Experiments in Engineering	4 SH

Electives (9 SH)*

Students are required to complete 9 SH of 500-level courses related to their declared area of concentration, and 6 SH of 500-level courses related to their declared collateral area. EOHS 595 cannot be applied towards these requirements. In addition, students are required to take electives to obtain a minimum of 96 SH. *Students without a prior master's degree in public health or a related area will be required to complete 37 SH of electives.

Epidemiology – PhD

The PhD in Epidemiology program requires a minimum of 96 semester hours (SH). This program includes the following course requirements:

School-Wide Core Requirements (32 - 46 SH)

Course	Title	Credits
BSTT 400*	Biostatistics I	4 SH
BSTT 401*	Biostatistics II	4 SH
IPHS 520	Foundations of Public Health (required for all PhD students without an MPH degree).	3 SH
EPID 403*	Introduction to Epidemiology: Principles and Methods	3 SH
IPHS 599	PhD Dissertation Research	min. 32 SH
Required Non-Credit Training		
Information Privacy & Security (https://about.citiprogram.org/en/homepage) IPS Register for the University of Illinois, Chicago		Non-credit
Human Subjects Research (https://about.citiprogram.org/en/homepage) HSR Register for the University of Illinois, Chicago		Non-credit
Academic Integrity Tutorial		Non-credit
Title IX Training		Non-credit

*If not previously taken at the masters level

Divisional Core Requirements (28 SH)

Course	Title	Credits
BSTT 505	Logistic Regression and Survival Analysis	2 SH
EPID 404	Intermediate Epidemiologic Methods	4 SH
EPID 406	Epidemiologic Computing	3 SH
EPID 410	Epidemiology of Infectious Diseases	2 SH
EPID 411	Epidemiology of Chronic Disease	3 SH
EPID 500	Advanced Applied Epidemiologic Methods II	4 SH
EPID 501	Advanced Quantitative Methods in Epidemiology	4 SH
EPID 591	Current Epidemiologic Literature	2 SH
EPID 595	Epidemiology Research Seminar	1 SH
BSTT 506	Design of Clinical Trials	3 SH

Note: Students in the PhD program in Maternal and Child Health Epidemiology need to discuss these requirements with their advisor.

Electives (minimum of 29 SH)

- Two 500-level substantive Epidemiology classes, in different areas, to prepare for substantive sections of preliminary examination (e.g. Cardiovascular, Cancer, Aging, Infectious, Pediatrics, Genetics) (4-6 SH)
- At least one biological science class relevant to student's research area is required if no prior biological sciences background (4 SH) **Note: Students may enroll in an undergraduate biological sciences course; however these hours will not count towards graduation credits for the PhD.**

- Additional coursework in relevant area outside of Epidemiology and approved by your advisor (e.g. Biostatistics, Nutrition, Maternal and Child Health, Environmental Sciences, Sociology) (6 SH)
- Remaining electives (13-15 SH)

Note: Students must complete the number of electives necessary to bring total program hours to a minimum of 96 credit hours. Students with a master's degree in public health or a related area may receive up to 32 SH of credit towards the 96 SH total.

Performance Standards: In addition to school-wide standards, no grade below "B" is acceptable in any Epidemiology or Biostatistics required course. If a grade below "B" is achieved in such a course, it may be repeated once. Failure to maintain this standard will be grounds for dismissal from the Epidemiology Program.

Optional Concentrations

Occupational and Environmental Epidemiology in Epidemiology (98-99 SH)

Currently, all School of Public Health PhD degree programs are being revised to include IPHS 520: Public Health Frameworks for Researchers is a required introductory course for MS and PhD students who may not have any previous public health experience or knowledge. The Division Epidemiology – Occupational and Environmental Epidemiology has a more rigorous revision that is listed below. This program is pending campus approval Fall 2018.

Students must complete the School-Wide Core Requirements above and 40-42 semester credit hours of the following courses as part of their divisional and elective choices. In addition, students must adhere to the divisional requirements as stipulated for their individual program of study.

Course	Title	Credits
BSTT 505	Logistic Regression and Survival Analysis	2 SH
EPID 404	Intermediate Epidemiologic Methods	4 SH
EPID 411	Epidemiology of Non-Infectious Diseases	3 SH
EPID 406	Epidemiologic Computing	3 SH
EPID 594	Applied Methods for the Analysis of Epidemiologic Data	4 SH
EPID 500	Advanced Epidemiologic Methods II	4 SH
EPID 501	Advanced Quantitative Methods in Epidemiology	4 SH
EPID/EOHS 530	Current Topics in Occupational & Environmental Epidemiology	2 SH
EPID/EOHS 535	Applied Methods in Occupational Epidemiology	2 SH
EPID/EOHS 536	Applied Methods in Environmental Epidemiology	2 SH
EPID/EOHS 571	Injury Epidemiology and Prevention	3 SH
EOHS 421	Occupational Safety and Health Practice	2 SH
EOHS 502	Environmental and Occupational Toxicology and Diseases	4 SH
EOHS 501	Exposure Assessment Strategies	3 SH
EOHS 495	Environmental/Occupational Health Seminar (students must participate in 4 semesters, but need only enroll for credit in one semester)	1 SH

EOHS 556	Risk Assessment in Environmental and Occupational Health	3 SH
Select one of the following courses:		
EOHS 436	GIS for Environmental and Public Health Professionals	4 SH
EOHS/HPA 564	Geographical Information Systems in PH	3 SH
Electives: Select at least 9 SH of Electives		9 SH
Total Credit Hours Including School-Wide Core Requirements		98-99

Required courses will be waived based on previous course work thus reducing the total number of required semester hours. However, a minimum of 96 SH will be required of all students in the PhD program.

Cancer Epidemiology (98 SH)

School-wide Requirements (32-46 SH)**		
Course	Title	Credits
BSTT 400*	Biostatistics I	4 SH
BSTT 401*	Biostatistics II	4 SH
EPID 403*	Introduction to Epidemiology: Principles and Methods	3 SH
IPHS 520	Foundations of Public Health (required for all PhD students without an MPH degree)	3 hrs
IPHS 599	PhD Dissertation Research	min. 32 SH

Required Non-Credit Training

Information Privacy & Security (https://about.citiprogram.org/en/homepage) IPS Register for the University of Illinois, Chicago	Non-credit
Human Subjects Research (https://about.citiprogram.org/en/homepage) HSR Register for the University of Illinois, Chicago	Non-credit
Academic Integrity Tutorial	Non-credit
Title IX Training	Non-credit

*If not previously taken at the masters level

EOHS 455	Environmental and Occupational Toxicology	3 SH
EOHS/HPA 565	Datamining Applications in Public Health	3 SH
Credit from Previous Master's Degree in Public Health or Related Area		32 SH

Cancer Epidemiology Core (18 SH)

Course	Title	Credits
EPID 515	Survey of Cancer Epidemiology	3 SH
EPID 516	Advanced Cancer Epidemiology	2 SH
EPID 520	Genetics in Epidemiology	2 SH
EPID 554	Occupational and Environmental Epidemiology	2 SH
EPID 594	Special Topics: Social Epidemiology	3 SH
EPID 550	Special Topics: Surveillance Epidemiology	3 SH
CHSC 514 or HN 594*	Nutritional Epidemiology or Special Topics in Human Nutrition	3 SH

*With permission of the division, students may substitute HN 532: Evaluation of Nutritional Status (3 SH) and submit a waiver request to apply the credit.

Electives (minimum 16 SH)

- Students must take a minimum of 16 credits of electives.
- At least one biological science class (4 SH) relevant to student's research area is required if no prior biological sciences background

Optional Program - Maternal and Child Health Epidemiology

Students in the PhD in MCH Epidemiology (MCHEPI) are required to take courses in both Epidemiology and Maternal and Child Health (MCH), along with courses from other disciplines that focus on the substantive, analytic, and technical aspects of the public health planning cycle. A limited amount of specially targeted federal funding is available for MCHEPI students who are U.S. citizens or permanent residents.

- A minimum of 96 semester hours of credit, including up to 32 credits transferred from a Master's degree and 32 credits for dissertation research. Students who waive courses must still accumulate 96 credits to graduate, but the total may be reached with additional research hours or methods courses.
- A written and oral preliminary exam, including a 4 hour in-class methods exam, a 10 day take home data analysis, and either in-class or take home questions covering two substantive areas within MCH as determined by the student's examination committee. Ideally, the preliminary exam is taken after all coursework has been completed, but it may be taken earlier with consent of the academic advisor.
- A dissertation which must be conducted in conjunction with a state or local public health agency or using the data from such agencies.
- Leadership coaching offered by the Center of Excellence in MCH (CoE-MCH).

Required Courses

<i>Master Level Courses:</i>		
IPHS 594	Public Health Frameworks for Researchers (<i>req for students w/o MPH</i>)	
BSTT 401	Biostatistics II	4 sh
EPID 404	Intermediate Epidemiologic Methods	4 sh
EPID 406	Epidemiologic Computing (<i>Prereq. for EPID 404</i>)	3 sh
Select <u>ONE</u> of the following courses:		
CHSC 511	MCH Delivery Systems	4 sh
CHSC 543	MCH Policy and Advocacy	3 sh
Select <u>ONE</u> of the following courses:		
EPID 409	The Epidemiology of HIV/AIDS	2 sh
EPID 410	Introduction to Infectious Disease Epidemiology	2 sh
EPID 411	Introduction to Chronic Disease Epidemiology	3 sh
EPID 594	Surveillance	3 sh
<i>Theory Courses:</i>		
CHSC 550	Advanced Theories and Topics in Community Health Sciences	3 sh
CHSC 551	Advanced Research Methods for Community Health Sciences	3 sh
<i>Advanced Research Methods Courses:</i>		
EPID/CHSC 518++	Epidemiology of Pediatric Diseases	3 sh
EPID/CHSC 548+	Readings in Reproductive and Perinatal Epidemiology (includes independent study)	3 sh
<i>Advanced Analytic Methods Courses</i>		
BSTT 505++	Logistic Regression & Survival Analysis (<i>Prereq for EPID 501</i>)	2 sh
EPID 501++	Advanced Quantitative Methods in Epidemiology	4 sh
EPID/CHSC 549++	Advanced Applied Methods in MCH Epidemiology	3 sh

PA 588++	Survey Data Reduction and Analysis (ONLINE ONLY)	4 sh
Select ONE of the following courses:		
BSST 537++	Longitudinal Data Analysis	4sh
EPSY 512++	Hierarchical Linear Models	4sh

With consent of the advisor, a student may replace a required course with a relevant substitute.

Electives

Tier 1 – Highly Recommended

CHSC 434	Introduction to Qualitative Methods in Public Health	3 sh
CHSC 534++	Management and Analysis of Qualitative Data	3 sh
EPID/CSHC 545	Reproductive and Perinatal Health	3 sh
CHSC 577+	Survey Questionnaire Design	3 sh
EPID / EOHS 571	Injury Epidemiology and Prevention	3 sh
EPID 594	Sexually Transmitted Infections	3 sh
EPID 594+	Social Epidemiology	2 sh
HPA 557++	Measurement in Health Services Research	3 sh
HPA 564+	Geographic Information System Application in Public Health	3 sh
PA 582+	Survey Data Collection Methods	2 sh
PSCH 538	Seminar in Community and Prevention Research	1-4 sh
UPP 461	Geographic Information Systems for Planners	4 sh

Electives

Tier 2 – Suggested

CLJ 560+	Quantitative Methods and Design	4 sh
ED 502+	Essentials of Qualitative Inquiry in Education	4 sh
EPID 510	Advanced Epidemiology of Infectious Diseases	2 sh
EPID 520	Genetics in Epidemiology	2 sh
HPA 465	Health Information and Decision Support Systems I	4 sh
BHIS 509	Informatics for the Clinical Investigation	3 sh
NUEL 563+	Neighborhoods and Health	2 sh
PA 578	Surveys, Public Opinion, and Public Policy	4 sh
PA 581+	Cross-Cultural Survey Research Methods	2 sh
PSCH 538+	Thinking and Acting Ecologically in Community Research and Intervention	3 sh
UPP 508+	Geographic Information Systems for Planning	4 sh
UPP 543	Planning for Healthy Cities	4 sh

Electives

Biological Sciences

At least one biological science class relevant to student's research area is required if no prior biological sciences background (4 SH). Students may enroll in an undergraduate level to fulfill the biological science requirement but the credits will not be applied towards the total minimum graduation requirements.

Other Requirements

	HIPPA Research 101	0 sh
	Investigator Training 101	0 sh
	Title IX – Sexual Harassment Training	0 sh
IPHS 599	PhD Dissertation Research	32 sh
	MCH PhD Student Professional Development Requirements (see below)	0 sh

Summary of Credits

	Doctoral-level coursework	32+ sh
IPHS 599	PhD Dissertation Research	32 sh
	Credits Transferred from an appropriate Master's degree	32 sh
	MCH PhD Student Professional Development Requirements (see below)	0 sh

+ This course can be used to meet the Advanced Research Methods Course Requirement for PhD in CHS (6 credits required).

++ This course can be used to meet the Advanced Analytic Methods Course Requirement for PhD in CHS (6 credits required).

MCHEPI PhD Student Professional Development Requirements

JOURNAL CLUB

MCH PhD students host a journal club once a month. All MCHEPI PhD students are strongly encouraged to attend and present. Additionally, MCHEPI PhD students are strongly encouraged to attend and present at the weekly EPI journal club.

CAREER DEVELOPMENT/ LEADERSHIP & MANAGEMENT TRAINING

- Students will be required to attend 1-2 workshops/events that are sponsored by Career Services or by the CoE-MCH
 - *SPH Career and Professional Development Workshops:* Each year the UIC SPH Student Affairs Office hosts career and professional development workshops and events.
<http://publichealth.uic.edu/current-students/career-services/career-events>
 - *CoE-MCH Professional Development Workshop:* As needed, the CoE-MCH will host a workshop that covers various management topics/skills. MCHEPI students are strongly encouraged to attend. Examples of some workshops include: Project Management, Grant Writing, Effective Collaborations and Partnerships, Effective Communication Skills, Mindfulness, & Work/Life Balance. These workshops will be advertised through the MCH listserv.

LEADERSHIP COACHING

- Each MCHEPI PhD student will be required to meet with Dr. Risley (MCH Leadership Coach) two (2) times throughout their academic career.

TEACHING/RESEARCH TRAINING

- UIC SPH Office of Research Services hosts several trainings throughout the year. MCHEPI PhD students are required to attend 1-2 sessions during their academic careers.
- It is suggested that all MCHEPI PhD students take the “Foundations of Teaching” course that is offered through the UIC Graduate College (<http://grad.uic.edu/foundations-college-teaching-course-gc-593>) or an equivalent course if they are interested in a career in academe.

INSTRUCTIONAL EXPERIENCE

Each PhD student is required to obtain experience in classroom teaching. The teaching experience for doctoral candidates should at minimum consist of planning, leading and evaluating a ***minimum of two classroom sessions***, which maybe online or in-class sessions. If students are clear that they will be pursuing a career in academe, they should be encouraged by their advisors to go beyond this minimum.

Health Policy and Administration – PhD

The PhD in Health Policy and Administration (HPA) program requires a minimum of 96 semester hours (SH). This program includes the following course requirements:

School-Wide Core Requirements (46 SH)

Course	Title	Credits
BSTT 400*	Biostatistics I	4 SH
BSTT 401*	Biostatistics II	4 SH
EPID 403*	Introduction to Epidemiology: Principles and Methods	3 SH
IPHS 520	Foundations of Public Health (required for all PhD students without an MPH degree).	3 SH
IPHS 599	PhD Dissertation Research	min. 32 SH
Required Non-Credit Training		
Information Privacy & Security (https://about.citiprogram.org/en/homepage) IPS Register for the University of Illinois, Chicago		Non-credit
Human Subjects Research (https://about.citiprogram.org/en/homepage) HSR Register for the University of Illinois, Chicago		Non-credit
Investigator Training 101		Non-credit
Academic Integrity Tutorial		Non-credit

*If not previously taken at the masters level

Electives

All students must complete a sufficient number of courses to bring the total program hours to 96 SH. A minimum of 9 SH must be taken at the 500-level. **Note:** IPHS 599 hours may not be counted toward fulfillment of this requirement

Students with a master's degree in a relevant research area may receive up to 32 SH of credit towards the 96 SH total.

Recommended Plan of Study

Under direction of the academic advisor, each student must complete appropriate courses that address the curriculum objectives. Students will be expected to take additional courses in their area(s) of focus, e.g., economics, qualitative research, measurement, survey research, program evaluation. The specific courses taken to achieve curriculum objectives must be approved by the Director of Doctoral Studies.

Students must complete a minimum of 9 SH in formal 500 series courses in major area of concentration (not necessarily in one division). If required by the chosen division, students must also complete 6 SH in a collateral area. **Note:** IPHS 599 cannot be counted towards fulfillment of this requirement.

During the first year of doctoral studies, it is recommended that students take a core set of courses regardless of intended concentration. In the second year students will be encouraged to choose one of two recommended tracks identified below and pursue coursework in that area.

Students may enter the doctoral program with a bachelor's degree, but will be strongly encouraged to remediate a math deficiency by the end of the first year.

Students entering the program with a prior master's degree may be permitted to transfer up to 32 SH of relevant coursework, depending on relevancy and appropriateness of the master coursework.

School-Wide Core Requirements (43 SH)

Course	Title	Credits
BSTT 400*	Biostatistics I	4 SH
BSTT 401*	Biostatistics II	4 SH
EPID 403	Introduction to Epidemiology: Principles and Methods	3 SH
IPHS 599	PhD Dissertation Research	min. 32 SH
Required Non-Credit Training: http://tigger.uic.edu/depts/ovcr/research/protocolreview/irb/education/index.shtml		
HIPAA Research Training		Non-credit
Investigator Training 101		Non-credit

*For students who have already taken BSTT 400 and BSTT 401 students will be encouraged to substitute the following courses:

- BSTT 505 Logistic Regression and Survival Analysis (2 SH)
- BSTT 507 Sampling and Estimation Methods Applied to Public Health (3 SH)
- BSTT 537 Longitudinal Data Analysis (4 SH)

Recommended Core (1st Year Students)

Course	Title	Credits
HPA 522	Public Health Research Design and Methods	3 SH
HPA 567	Health Policy Analysis	3 SH
HPA 573	Principles of economic evaluation of health care interventions	3 SH
HPA 594	Introduction to Health Services Research	3 SH
HPA 594	Advanced Health Services Research	3 SH
HPA 594	Applied Research Methods	4 SH

Students without any prior economics coursework are encouraged to enroll in HPA 460 Introduction to Health Economics (3cr) in the fall semester. In addition, students lacking a strong background in calculus and linear algebra will be encouraged to take:

MATH 165, Calculus for Business (5cr); and MATH 310, Applied Linear Algebra (3cr)

Optional Tracks

Two optional tracks are offered: a) health services/outcomes concentration- designed to provide the research skills necessary to study the organization, access, financing and delivery of health services, and (b.) health economics concentration- which provides the research skills necessary to evaluate the policies that influence population health and the political environment.

Health Services/ Outcomes Research

Health Services/Outcomes Track (22-27 SH)		
Course	Title	Credits
BSTT 505	Logistic Regression and Survival Analysis	2 SH
BSTT 507	Sampling and Estimation Methods Applied to Public Health	3 SH
BSTT 537	Longitudinal Data Analysis	4 SH
CHSC 447	Survey Planning and Design	3 SH
CHSC 534	Qualitative Data Analysis (opt)	3 SH
CHSC 551	Foundations of Public Health Inquiry	3 SH
HPA 590	Research and Grant Writing	3 SH
UPP 588 or UPP 584	Research Design and Evaluation or Methods in Policy Analysis	4 SH

Track Learning Outcomes:

1. Demonstrate knowledge of measurement theory and its applications
2. Familiarity with philosophy of science and theories and models relevant to health services research, such as the Health Belief Model.
3. Experience with survey research design
4. Mastery of program evaluation and policy analysis
5. Understanding of qualitative research techniques and analysis of qualitative data

Health Economics Track

Health Economics Track (20-27 SH)		
Course	Title	Credits
ECON 436	Mathematical Economics (opt)	4 SH
ECON 501	Microeconomics I	4 SH
BSTT 537	Microeconomics II	4 SH
CHSC 447	Econometrics I	4 SH
CHSC 534	Econometrics II	4 SH
CHSC 551	Microeconometrics (opt)	4 SH
HPA 590	Research and Grant Writing	3 SH

Track Learning Outcomes:

1. Demonstrate knowledge of the theoretical and historical foundations of health services and policy research. Included are theoretical frameworks and substantive findings regarding the primary issues in health services research--access, quality, and the cost, financing and effectiveness of health services.
2. Demonstrate a high degree of mastery in basic statistical methods and epidemiology.
3. Demonstrate facility in advanced statistical methods, Stata use, and research design.
4. Demonstrate knowledge of principles, models and practical methods for the economic evaluation of health care services.
5. Demonstrate knowledge of micro organizational research topics, including motivation, leadership, power and politics, and employee attitudes and behaviors in

organizations.

6. Understanding of the role of government and government policies in the health care market.
7. Facility in grant writing strategies with an emphasis on methodologies relevant to health services, economics and outcomes research.
8. Demonstrate an understanding of professional norms and engagement in interdisciplinary research.

JOINT MD/PHD DEGREE

The School of Public Health participates in a joint MD/PhD with the College of Medicine.

Joint Degree	Availability of Joint Degree Programs by Division				
	CHS	EOHS	Epi	Bio	HPA
MD/PhD			X	X	

MD/PhD training in epidemiology and/or biostatistics provides an extended period of study in the etiologic and methodological approaches of population-based health research in concert with complete medical school education. Application is normally made at the time of application to the College of Medicine; however, applicants will also be considered during their first two years of medical training. Students must apply to the MD/PhD Training Program and to the College of Medicine, and indicate in their application that they are interested in a PhD in epidemiology or biostatistics. Criteria for admission to the program include academic excellence, prior research experience, potential for independent and creative research, and commitment to a career in academic medicine. Students receive a stipend throughout their years of study. Students interested in further information may contact Susan Altfeld, Associate Dean for Academic Affairs, SPH, phone: (312) 355-1134, e-mail: saltfeld@uic.edu; or the MD/PhD Training Program: Dr. Larry Tobacman, Director, phone: (312) 413-1010, e-mail: lst@uic.edu; Roberta Bernstein, Assistant Director, phone: (312) 996-7473, e-mail: roberta@uic.edu.

INTERDEPARTMENTAL CONCENTRATIONS

The School of Public Health offers PhD students the opportunity to participate in any of the Interdepartmental Concentrations as appropriate to their research interests.

Interdepartmental Concentration	CHS	EOHS	Epidemiology	HPA
	X	X	X	X
<u>Gender and Women's Studies</u>	X	X	X	X
<u>Violence Studies</u>	X	X	X	X
<u>Women's Health</u>	X	X	X	X

Gender and Women's Studies Concentration

The School of Public Health is a participating department in the graduate concentration in Gender and Women's Studies offered by the Gender and Women's Studies Program at the University of Illinois at Chicago. Once admitted to SPH, students may apply to the GWS Program for admission to the concentration.

Experiencing GWS courses will allow students to critically examine issues of women and gender, as well as their complex intersections with race, class, ethnicity, and sexual identity; providing a rich, interdisciplinary focus.

For additional details about the program visit: <https://gws.uic.edu/gws/academics/grad-concentration>.

Contact Information

For further information about the concentration in Gender and Women's Studies please contact:

Jennifer Brier
Director of Gender and Women's Studies
312-413-2458
jbrier@uic.edu

Violence Studies

The School of Public Health is a participating department in the graduate concentration in Violence Studies offered in collaboration with the Departments of Criminology, Law, and Justice, Psychology, and Political Science as well as the Gender and Women's Studies Program and the Jane Addams College of Social Work. The concentration is administered jointly through the Department of Criminology, Law, and Justice and the College of Social Work.

Composed of courses from multiple disciplines, this concentration provides students with a holistic view of the problem of violence in society and deepens their knowledge and skill set to address it. This concentration aims to produce broadly trained individuals who can apply theories and methods from multidisciplinary perspectives to critically analyze and effectively respond to various types of violence in society through innovative programs of research, policy development, treatment, and prevention. The concentration requires a minimum of 11 semester hours (4 courses) with two courses selected from a list of foundational courses and then two additional supplementary courses.

For additional details about the program including the required course work, review the Graduate Catalog description at <https://catalog.uic.edu/gcat/colleges-schools/social-work/vios-conc/>.

Contact Information

For further information about the concentration in Violence Studies please contact:

Patricia O'Brien, PhD
Associate Professor, Jane Addams College of Social Work
(312) 996-2203
pob@uic.edu

Women's Health Concentration

The Interdepartmental Graduate Concentration in Women's Health is co-sponsored by the UIC College of Nursing, the School of Public Health, and the Gender and Women's Studies program. The Concentration is housed within the College of Nursing.

This Concentration encompasses the multidisciplinary aspects of Women's Health and provides training in the foundations of Women's Health through its structure and content. The Core courses provide a broad overview of the field and issues within Women's Health, and they address the need for a conceptual and applied background in Women's Health. The elective allows a student to pursue an issue or area of professional interest in Women's Health. The multidisciplinary requirement in this Concentration ensures that a student has significant exposure to a paradigm other than the dominant paradigms used within their own school or department.

This concentration is an elective concentration for graduate students, consisting of core and elective courses across several academic units. The Concentration curriculum can be completed without the need to change existing graduate college or departmental academic requirements. In the case of certain academic units, however, students may need to complete additional hours beyond the minimum required for a masters or a doctoral degree within their home school, college or department.

The Interdepartmental concentration in Women's Health requires 12 semester hours (SH) and is designed for completion in as little as four semesters by completing one course each semester. Students must complete at least 6 SH outside of their home area and take one core course from three separate areas: 1) Introductory Women's Health, 2) Women's Health Specific Issues, and 3) Theory/Methods.

For a complete description of the concentration, including its target audience, course requirements, and designated and affiliated faculty see the College of Nursing website at:
<https://www.nursing.uic.edu/academics-admissions/certificate-programs#womens-health-concentration>

Contact Information

For further information about the concentration in Women's Health please contact:

Carrie Klima, CNM, PhD
Concentration Director and Clinical Associate Professor of Nursing
(312) 996-1863
cklima@uic.edu

CHICAGO METROPOLITAN EXCHANGE PROGRAM (CMEP)

The Chicago Metropolitan Exchange Program (CMEP) allows UIC doctoral students to access courses at the University of Chicago and Northwestern University. Courses taken through the CMEP should be relevant to the student's program and not offered at UIC. Students will be billed for courses taken through the CMEP at their home campus at its usual rate. Please note that UIC students who would like to take courses at the University of Illinois at Urbana-Champaign or the University of Illinois at Springfield may do so as a concurrent registrant through the UIC Registrar's Office, and would not be part of this program.

More information about the CMEP is available on the Graduate College website at:

<http://grad.uic.edu/chicago-metropolitan-exchange-program>.

PHD DEGREE COMPETENCIES

PhD degree students are prepared to assume academic or research careers in a basic or applied science related to public health or careers in public health practice within both the public and private sectors. In general, the PhD graduate will be able to:

1. Explain public health history, philosophy and values
2. Identify the core functions of public health and the 10 Essential Services
3. Explain the role of quantitative and qualitative methods and sciences in describing and assessing a population's health
4. List major causes and trends of morbidity and mortality in the US or other community relevant to the school or program
5. Discuss the science of primary, secondary and tertiary prevention in population health, including health promotion, screening, etc.
6. Explain the critical importance of evidence in advancing public health knowledge
7. Explain effects of environmental factors on a population's health
8. Explain biological and genetic factors that affect a population's health
9. Explain behavioral and psychological factors that affect a population's health
10. Explain the social, political and economic determinants of health and how they contribute to population health and health inequities
11. Explain how globalization affects global burdens of disease
12. Explain an ecological perspective on the connections among human health, animal health and ecosystem health (e.g., One Health)

Biostatistics: PhD Competencies

The PhD student in Biostatistics should attain skills in the practice of biostatistics for research and teaching in academic, government, and industry settings.

In addition to competencies for MS students in biostatistics, the PhD graduate in Biostatistics will be able to:

1. Contribute to the development of the Biostatistical discipline.
2. Apply advanced methodology for various data structures and problems, and interpret results appropriately.
3. Contribute effectively to interdisciplinary research.
4. Communicate Biostatistical concepts effectively.

Community Health Sciences: PhD Competencies

PhD degree students are prepared to assume academic or research careers in a basic or applied science related to public health or careers in public health practice within both the public and private sectors.

In general, the PhD graduate will be able to:

1. Demonstrate foundational knowledge on topics, theories and methods relevant to community health sciences, especially to one's specialized area of research.
2. Design and conduct original research that fills a knowledge gap significant to community health sciences, while continuously cultivating the ability to think critically and synthesize relevant materials.

3. Communicate one's ideas and research effectively to diverse audiences, including scientists, community members, practitioners, and policy makers.
4. Teach topics relevant to community-health sciences at the undergraduate or graduate level.
5. Engage in interdisciplinary activities in collaboration with communities, organizations and other stakeholders in research, practice and policy.
6. Demonstrate an understanding of ethical conduct of research and practice and interact with community partners and collaborators in a professional and ethical manner.

Environmental and Occupational Health Sciences: PhD Competencies

In addition to the school-wide competencies for the PhD student and the EOHS competencies for MS students, the PhD graduate in EOHS will be able to:

1. Demonstrate foundational knowledge in research methods, environmental and occupational health and public health.
2. Design and conduct an original research study that fills a knowledge gap significant to occupational and environmental health sciences, and involves the analysis of data.
3. Communicate research methodology and findings through oral and written media, including peer-reviewed literature.
4. Demonstrate the ability to teach occupational and environmental health sciences at the undergraduate or graduate level.
5. Engage with inter-disciplinary teams of scholars.
6. Demonstrate professional attributes consistent with successful scientific careers, including: leadership, ethics, collaboration, critique of the work of others and of self, and engagement in the scientific community.

Epidemiology: PhD Competencies

In addition to the school-wide competencies for the PhD students in epidemiology should attain skills specifically for the practice of epidemiology in research, teaching and practical settings.

1. Demonstrate foundational knowledge in epidemiological research methods.
2. Conduct an original epidemiological research study that fills a knowledge gap significant to the field of public health and involves the analysis and interpretations of data.
3. Communicate epidemiological research methodology and findings through oral and written media, including peer-reviewed literature.
4. Teach epidemiology at the graduate level.
5. Engage in interdisciplinary activities.
6. Demonstrate professional attributes by presenting to faculty and at regional, national and/or international conferences, complete at least one IRB application, critically review a publishable paper, and develop a professional curriculum vitae.

Cancer Epidemiology Concentration

In addition to meeting the Epidemiology PhD competencies, students concentrating in Cancer Epidemiology will be able to:

1. Describe and characterize the major known determinants of cancer.
2. Describe, locate, analyze and interpret existing data relevant to cancer.
3. Understand the strengths and weaknesses of alternative epidemiologic study designs in the context of cancer research.
4. Work within a multidisciplinary team to study behavioral, environmental, infectious, nutritional and/or genetic factors involved in cancer etiology.

Maternal and Child Health Epidemiology Concentration

The following competencies apply for students electing the Maternal Child Health Epidemiology program:

1. Analyze and interpret data from vital stats, census, surveys, service utilization, and other relevant reports on the health of MCH populations, and have the ability to detect meaningful influences from data and the translation of data into information
2. Design investigations including the identification of target populations, determining which groups are to be included in the study, evaluating possible sources of bias/confounding and developing ways to minimize bias/confounding
3. Evaluate key design and methodological issues in the studies of reproductive, perinatal, and pediatric outcomes and approaches to successfully address these issues
4. Doctoral students utilize cutting edge advanced analytic methods and approaches needed to inform practice and policy in MCH
5. Use the appropriate cultural/social/political framework to develop recommendations for the design, implementation and/or enhancement of MCH public health programs

Occupational and Environmental Epidemiology: PhD Competencies

The following competencies apply for students electing the Occupational and Environmental Epidemiology concentration.

PhD students will be able to:

1. Design and conduct epidemiological studies testing hypothesis relevant for understanding the etiology of occupational and environmental diseases and injuries
2. Use appropriate statistical methods for the analysis of occupational and environmental epidemiologic studies
3. Teach occupational and environmental epidemiology at the undergraduate or graduate level
4. Write scientific papers suitable for publication in peer reviewed journals or other scientific and public health publications
5. Present findings of research at scientific and other public meetings
6. Work with a multidisciplinary team of environmental health scientists

Health Policy and Administration: PhD Competencies

For students pursuing the PhD, HPA offers a number of different opportunities. There is a general research opportunity, with students pursuing a wide range of individually tailored curricula. For those students, the competencies are the same as the school-wide PhD competencies.

In addition to the school-wide competencies, HPA PhD students who focus their work on research in **public health informatics** are expected to be able to:

1. Demonstrate foundational knowledge in research methods and health policy.
2. Conduct original research that fills a knowledge gap significant to health policy and health services
1. research.
2. Communicate research methodology and findings through oral and written media, including peer-reviewed literature.
3. Teach health policy related material at the undergraduate or graduate level
5. Engage in interdisciplinary activities.
6. Demonstrate professional attributes consistent with successful scientific careers, including: leadership, ethics, collaboration, critique of work of others and self, and engagement in the scientific community.

In addition to the school-wide competencies, HPA PhD students who focus their work in **health services research and health economics** are expected to be able to do the following:

1. Demonstrate knowledge of the underlying relevant theoretical frameworks for studying health, health services and health policy
2. Demonstrate knowledge of the evolution, structure and functioning of the U.S. health system.
3. Identify and analyze the relevant literature on what is known and what are the frontiers of knowledge in their area of interest.
4. Select, defend and implement an appropriate study design, with attention to the reliability and validity of results.
5. Recognize the need for and employ specialized techniques (e.g., measurement theory or qualitative analysis) if appropriate.
6. Analyze their data and draw appropriate conclusions and identify important implications suggested by their data.
7. Demonstrate professional competence in teaching, communication and grant writing.