



HARVARD
T.H. CHAN

SCHOOL OF PUBLIC HEALTH

Department of Epidemiology

Department of Epidemiology
Student Handbook
2022-2023

677 Huntington Avenue

Boston, MA 02115

Telephone 617-432-1055

Fax 617-566-7805

Website: <http://www.hsph.harvard.edu/>

Email: epidept@hsph.harvard.edu

Social media: Twitter: [@HarvardEpi](https://twitter.com/HarvardEpi)

[YouTube](#)

1.0 INTRODUCTIONS

1.1 WELCOME LETTER..... 3
 1.2 DEPARTMENT OF EPIDEMIOLOGY – MISSION..... 4
 1.3 PREFACE..... 4

2.0 ADMINISTRATIVE

2.1 DEPARTMENT OF EPIDEMIOLOGY ADMINISTRATIVE ORGANIZATION..... 5
 2.2 IMPORTANT ACADEMIC DATES..... 5

3.0 GENERAL ACADEMIC INFORMATION

3.1 DEGREES..... 6
 3.2 AREAS OF INTEREST..... 6
 3.3 ADMISSIONS POLICIES AND REQUIREMENTS..... 6
 3.4 ADVISORS..... 7
 3.5 COURSE WAIVERS..... 7
 3.6 INDEPENDENT STUDY/TUTORIAL (EPI 300)..... 8
 3.7 CURRICULAR PRACTICAL TRAINING (CPT) APPROVAL FOR STUENTS WITH F-1 VISAS..... 8
 3.8 WINTER SESSION..... 9
 3.9 ADDITIONAL RECOMMENDATIONS..... 9

4.0 FINANCIAL AID AND GRADUATE FUNDING

4.1 FINANCIAL AID AND GRADUATE FUNDING OVERVIEW..... 10
 4.2 TRAINING GRANTS..... 10
 4.3 TEACHING ASSISTANT EXPERIENCE..... 11

5.0 SM1 - MASTER OF SCIENCE SUMMER ONLY (42.5 CREDITS)

5.1 INTRODUCTION..... 12
 5.2 COMPETENCIES..... 12
 5.3 REQUIREMENTS..... 12
 5.4 EPI 315 ENROLLMENT..... 13
 5.5 COURSES..... 14

6.0 SM1 - MASTER OF SCIENCE ACADEMIC YEAR (42.5 CREDITS)

6.1 INTRODUCTION..... 15
 6.2 COURSE COMPLETION..... 15
 6.3 COMPLETION..... 15
 6.4 COURSE REQUIREMENT..... 15

7.0 MASTER OF PUBLIC HEALTH IN EPIDEMIOLOGY (42.5 CREDITS)

7.1 INTRODUCTION..... 16

8.0 MASTER OF SCIENCE IN COMPUTATIONAL BIOLOGY & QUANTITATIVE GENETICS

8.1 INTRODUCTION..... 17

9.0 SM2 - MASTER OF SCIENCE (80 CREDITS – 2 YEARS)

9.1 INTRODUCTION.....	18
9.2 COMPETENCIES.....	18
9.3 THESIS REQUIREMENTS AND GUIDELINES.....	18
9.4 THESIS POSTER PRESENTATION (OPTIONAL).....	19
9.5 THESIS TIMELINE.....	19
9.6 COURSE REQUIREMENTS.....	20
9.7 SAMPLE SCHEDULE.....	21

10.0 Ph.D. PHS – Doctor of Philosophy in Population Health Sciences

10.1 INTRODUCTION.....	22
10.2 COMPETENCIES.....	22
10.3 PHS & EPI REQUIRED COURSES.....	23
10.4 WRITTEN EXAM OVERVIEW.....	24
10.5 PROCEDURE FOR THE EXAMINATION.....	25
10.6 PROSPECTIVE PROGRAM.....	25
10.7 FINAL PROGRAM/NOMINATE RESEARCH COMMITTEE (PQEII).....	25
10.8 ORAL EXAM/COMMITTEE MEMBERSHIP.....	26
10.8.2 ORAL EXAM/COMMITTEE MEMBERSHIP.....	26
10.9 OTHER REQUIREMENTS & ADDITIONAL RECOMMENDATIONS.....	26

11.0 INTERDISCIPLINARY CONCENTRATIONS & COURSE LISTINGS

11.1 INTERDISCIPLINARY CONCENTRATIONS.....	27
11.2 DEPARTMENT COURSE LISTINGS.....	27

12.0 STUDENT RESOURCES AND INFORMATION

12.1 STUDENT GROUPS & DEPARTMENTAL GROUPS.....	27
--	----

13.0 DEPARTMENT RESOURCES.....

28

14.0 ALUMNI SERVICES.....

29

1.1 WELCOME TO THE DEPARTMENT OF EPIDEMIOLOGY

Dear Students,

Welcome to the Department of Epidemiology and the Harvard T.H. Chan School of Public Health. Every year the department has the privilege of welcoming exceptional individuals into the program and providing them with the necessary support to become the next leaders in public health – as the newest members, we commend you on your accomplishments thus far and are confident that you will be successful in your future endeavors.

Here in the department, our mission is to evaluate and improve human health through education and research. We do this by offering students the opportunity to take a breadth and depth of coursework within the department and across the school, building a strong methodological foundation, and enriching the research experience through our faculty and partnerships with hospitals. You will be surrounded by supportive faculty, staff, administration, and students who are all dedicated to cultivating a positive and empowering environment – the relationships you build will span across the school and hopefully the world.

It is our great pleasure and privilege as Chair and Deputy Chair of the Department of Epidemiology to serve as instructors, mentors, colleagues, and leaders to a community so dedicated to spreading global health. We look forward to getting to know you and hearing about your research interests and aspirations.

Kind regards,

Dr. Albert Hofman
Chair, Department of Epidemiology
Stephen B. Kay Family Professor of Clinical Epidemiology and Public Health

Dr. Deborah Blacker
Deputy Chair, Department of Epidemiology

1.2 DEPARTMENT OF EPIDEMIOLOGY - MISSION

The Department of Epidemiology at the Harvard T.H. Chan School of Public Health investigates the frequency, distribution, and determinants of disease in humans, a fundamental science of public health. We strive to cultivate leaders and practitioners through research, methodology, and education.

Research

Well-grounded multidisciplinary research toward assessing the distribution and determinants of human illness with the aim of establishing reasoned preventive measures.

Methodology

Continuous efforts to improve methods for epidemiological investigation, to enhance validity and efficiency, and to expand the scope of activities in which epidemiologic methods can be usefully applied.

Education

Preparation of future researchers and practitioners in the field of epidemiology, as well as dissemination of knowledge to health professionals and the general public. As the reach of the Chan School is global in scope, so too is our research program. We are committed to the enhancement of the quality of health not only in our own country but internationally.

Led by our distinguished Chair Dr. Albert Hofman (Stephen B. Kay Family Professor of Clinical Epidemiology and Public Health), our renowned faculty, diverse student body, and dedicated administrative staff foster a collegial and supportive community, allowing all members to reach their full potential.

1.3 PREFACE

This handbook describes the academic requirements, policies, and programs in the Department of Epidemiology. The contents of this handbook are a supplement to the official [Harvard T.H. Chan School of Public Health Student Handbook](#). Epidemiology students are responsible for general knowledge of, and adherence to, the policies and requirements described in the Chan School Student Handbook as well as this Epidemiology Department Student Handbook. Doctor of Philosophy in Population Health Sciences students with Epidemiology as their Field of Study are responsible for the general knowledge of, and adherence to, the policies and requirements in the [Population Health Sciences Handbook](#) and [Graduate School of Arts and Sciences Handbook](#), as well as this Epidemiology Department Student Handbook. It should be noted that except under rare circumstances, students are subject to the rules in place during their year of entry. Student Handbooks for prior years are available [here](#). In addition, where school-wide and departmental policies overlap, Chan School Student Handbook or Graduate School of Arts and Sciences Handbook (for Ph.D.) takes precedence. The Department of Epidemiology reserves the right to update the information published in the Handbook as necessary.

2.0 ADMINISTRATIVE

2.1 DEPARTMENT OF EPIDEMIOLOGY ADMINISTRATIVE ORGANIZATIONS

Name	Title	Contact Information
Albert Hofman, MD, PhD	Department Chair, Stephan B. Kay Family Professor of Clinical Epidemiology and Public Health	617-432-6477 ahofman@hsph.harvard.edu
Deborah Blacker, ScD, MD	Deputy Chair, Professor in Epidemiology	dblacker@mgh.harvard.edu
Coppelia Liebenthal	Executive Assistant to the Chair	617-432-6477 cliebent@hsph.harvard.edu
Alison Richardson	Director of Administration	617-432-5167 arichardson@hsph.harvard.edu
Eric DiGiovanni, MEd	Assistant Director of Graduate Studies	617-432-1328 edigiova@hsph.harvard.edu
Caroline Huntington, MEd	Manager of Academic Affairs	617-432-5250 chunting@hsph.harvard.edu
Jeffrey Noyes, MEd	Sr. Academic Coordinator	617-432-7973 jnoyes@hsph.harvard.edu
Jiyoung Won	Assistant Director of Administration	617-432-1050 jiwon@hsph.harvard.edu
Allison Hakioglu	Manager of Academic Administration	617-432-5035 ahakioglu@hsph.harvard.edu

***All documents requiring the Chair's signature should be submitted to a member of the Epi Academic Team**

2.1 Harvard Epi Academic Team (HEAT)

Name	Degree Managed	Contact	Meeting Scheduling Link
Eric DiGiovanni, M.Ed.	<u>Ph.D. Population Health</u>	edigiova@hsph.harvard.edu	calendly.com/edigiova
Caroline Huntington, M.Ed.	<u>SM2 Master of Science</u>	chunting@hsph.harvard.edu	calendly.com/caroline-huntington
Jeffrey Noyes, M.Ed.	<u>SM1 Master of Science</u>	jnoyes@hsph.harvard.edu	calendly.com/jnoyes-1

Harvard Chan Academic Calendar

Subscribe to the Harvard Chan School's full [Academic Calendar](#).

3.0 GENERAL ACADEMIC INFORMATION

3.1 DEGREES

The Department of Epidemiology offers 6 degree granting programs:

- [42.5 Credit Master of Science Summer-only](#) (SM1 SO)
- [42.5 Credit Master of Science Academic Year](#) (SM1 AY)
- [45 Credit Master of Public Health in Epidemiology](#) (MPH-EPI; part-time online/on-campus program)
- [80 Credit Master of Science in Computational Biology and Quantitative Genetics](#) (CBQG)
- [80 Credit Master of Science \(2 year program\)](#) (SM2)
- [Doctor of Philosophy in Population Health Sciences](#) (Ph.D. PHS)

3.2 AREAS OF INTEREST

Students in the 42.5 Credit Master of Science Academic Year, 80 Credit Master of Science, or Ph.D. in Population Health Sciences with a field of study (f.o.s) in Epidemiology select one of the twelve Areas of Research Interest in which they complete a set of elective courses and conduct thesis or dissertation research. Some areas of interest have a list of suggested courses for degree completion. Please review your appropriate course list and contact the academic team with any questions.

- [Cancer Epidemiology](#)
- [Cardiovascular Epidemiology](#)
- [Clinical Epidemiology](#)
- [Environmental and Occupational Epidemiology](#)
- [Epidemiologic Methods](#)
- [Epidemiology of Aging](#)
- [Infectious Disease Epidemiology](#)
- [Genetic Epidemiology and Statistical Genetics](#)
- [Neuro-Psychiatric Epidemiology](#)
- [Nutritional Epidemiology](#)
- [Pharmacoepidemiology](#)
- [Reproductive, Perinatal and Pediatric Epidemiology](#)

3.3 ADMISSIONS POLICIES AND REQUIREMENTS

Master of Science and Master of Public Health applicants apply online through the Schools of Public Health Application Service ([SOPHAS](#)). Ph.D. in Population Health Sciences applicants apply directly to the Graduate School of Arts and Sciences ([GSAS](#)). The Department of Epidemiology adheres to all Office of Admissions (Harvard Chan & GSAS) deadlines and policies, and a review of applications is conducted by the Department. Admittance to a master's or Ph.D. program does not guarantee transfer or acceptance to another program within the school or department. *For more information contact the Assistant Director of Graduate Studies.*

Admission to the Ph.D. in Population Health Sciences

Current Masters Students

Epidemiology master's candidates are welcome to apply to the Ph.D. in Population Health Sciences program during the normal admissions cycle. Students are required to submit an electronic application, along with all supplemental documents, through the Graduate School of Arts and Sciences ([GSAS](#)) during the admissions season and will be notified of the decision from the GSAS Office of Admissions.

Admission to the Master of Science

Students adding or changing department

Students from other departments at the Harvard Chan School of Public Health may apply to change department affiliation to Epidemiology. In this case, students must submit an abbreviated [Application Form](#), two new letters of recommendation, and a statement of purpose to the Harvard Chan School of Public Health Office of Admissions.

Students interested in applying to change departments or degree programs should set up a 15 minute meeting with [Eric DiGiovanni](#).

3.4 ADVISORS

The Epidemiology Department appoints a faculty advisor who is working in an area related to the student's field of research interest. The advisor provides the student with academic guidance, information, and general assistance. For students in the Ph.D. and SM2 programs, your advisor may serve as a research mentor on the thesis. It is recommended that students meet with their advisor each semester, to discuss the student's proposed course of study and any procedural or personal issues relevant to the student's academic experience. The advisor's approval on the student's enrollment record is required and indicates that the course in which the student has enrolled is appropriate for the successful completion of the program. If the student's advisor is not available, contact the Assistant Director of Graduate Studies. For more information on advising, refer to the [Harvard T.H. Chan School of Public Health Student Handbook](#).

Request Change of Advisor

During a student's educational career, research interests may shift, requiring students to consider changing their originally assigned advisor to a new faculty member. Students must discuss the potential advisor change with the Assistant Director of Graduate Studies, his/her current and proposed new advisor before completing and submitting the [Change of Advisor Request Form](#).

3.5 COURSE WAIVERS

School-Wide Core Courses (EPI 201, BST 201, or ID 201)

Students who have previously completed a graduate-level epidemiology methods or biostatistics course at another institution can submit the required documents listed below to request a waiver. Request to waive introduction to Epidemiology and Biostatistics can be submitted using this Qualtrics survey, which typically opens in mid-July. The Department of Epidemiology will determine if the previous coursework is equivalent to the Harvard Chan School-Wide Core Courses. *Please note this form is ONLY for the School-Wide Core Course Requirement.*

Students will need to the following items:

1. Waiver of Core Course Form – [Registrar's Office](#)
2. Transcripts documenting final grades in the epidemiologic methods course
3. Course description and syllabus
4. Complete the [survey](#)

However, due to the strong integration between EPI 201 and EPI 202, Epidemiology students are **not advised** to waive EPI 201, even if they have taken an introductory Epidemiology course elsewhere. If you have questions, discuss with your advisor and the Assistant Director of Graduate Studies.

ID 100 Foundation of Public Health: This is a Fall semester course that is required for all first-year students. Some students who are in possession of an undergraduate or graduate degree with a major in public health may be eligible to waive this course. Students interested in waiving this course should contact their H.E.A.T administrator.

EPI Department Required Courses:

Students wishing to request a waiver for other departmental required courses must submit the [EPI Requirement Waiver Form](#). This form should be submitted to the Assistant Director of Graduate Studies along with a copy of the syllabus and a transcript from the institution where the course was taken. The student and their academic advisor will be notified of the decision on the waiver and a copy will be placed in the student's academic file.

BPH 208 and BPH 210 (Human Physiology and Pathophysiology): PhD students only. Physicians are not required to take the physiology or pathophysiology courses. Such students should consult with their advisor at the start of their program and notify the Assistant Director of Graduate Studies. Other students who have completed either a full year undergraduate course or semester long graduate course in a relevant subject may be eligible to waiver BPH 208 and/or BPH 210.

Biostatistics requirements: Many of our degree program require students to enroll in a certain number of credits within the Biostatistics department. On occasion the department may approve courses outside of the Biostatistics department to count towards your required coursework. (example: EPI 288 Introduction to Machine Learning and Risk Prediction)

Online Credit Limits for On-Campus Students

- Academic year (residential) SM1 EPI 42.5 credit students are limited to a maximum of 3.75 online credits in any semester and a maximum of 10 online credits overall out of the required 42.5 credits for the SM1 EPI 42.5 credit degree. *If you have concerns contact: jnoyes@hsph.harvard.edu*
- Summer-only SM1 EPI 42.5 credit students are limited to a maximum of 6.25 online credits in any semester and a maximum of 11.25 online credits overall out of the required 42.5 credits for the SM1 EPI 42.5 credit degree. *If you have concerns contact: jnoyes@hsph.harvard.edu*
- Academic year (residential) SM2 EPI 80 credit students are limited to a maximum of 3.75 online credits in any semester and a maximum of 10 online credits overall out of the required 80 credits for the SM2 EPI 80 credit degree. *If you have concerns contact: chunting@hsph.harvard.edu*

Students are expected to audit the number of online credits they have enrolled in during their time in the program. The Department of Epidemiology will audit student transcripts twice per year to confirm they are not exceeding limits.

3.6 INDEPENDENT STUDY (EPI 300)

Student may enroll in independent study credits during the academic year if they plan to pursue research or additional curricular work with a Harvard Chan faculty member. Enrolling in independent study represents an agreement between the student and a faculty member that the student will work on a specific project, which will be supervised by the faculty member, and must be approved by the student's advisor (and the supervising faculty member if not the advisor).

SM2 and SM1 students may register for up to 5 credits of EPI 300 for thesis research/writing during the term in which the thesis is submitted. Doctoral students typically enroll in 5 credits of EPI 300 for written exam preparation in the spring before taking the exam. Students considering enrolling in more than 5 credits for either of these purposes should consult with their advisor and a member of the academic team.

3.7 Curricular Practical Training (CPT) Approval for Students with F-1 Visas

To be considered CPT, the work must not only be related to the student's major field of study but must also be an integral part of an established curriculum. Before seeking off-campus internship opportunities, students are required to discuss their plans with Elizabeth Capuano (see contact info below) from the Harvard International Office to determine their CPT eligibility. Please note that CPT eligibility may be impacted by the March 2020 guidance issued by the Department of Homeland Security - Student Exchange Visitor Program.

There are two ways in which students are eligible for CPT:

1. Employment that is a required part of a degree program, such as a required internship or practicum. This requirement must be formally documented in school publications, such as a student handbook.
2. Employment that is not required by a degree program, but for which a program will award academic credits. This could include training courses such as a field studies course, an independent study course that is based on an internship.

Our program does not offer the first option above. However, we do allow the second option with approval from either of the program directors. International students who wish to pursue this option **MUST** speak with Elizabeth Capuano (elizabeth.capuano@harvard.edu), our representative at the Harvard International Office (HIO), **before beginning interview processes** at prospective internship sites to discuss the requirements for CPT authorization. Students should also speak to one of the directors about whether their employment would qualify for academic

credits, as the academic credits are required for CPT authorization. If CPT eligibility is established, please note that students **MUST** obtain CPT authorization **PRIOR** to beginning the internship.

The most up-to-date information about CPT will be found here:

<http://www.hio.harvard.edu/curricular-practical-training-cpt>.

3.8 WINTER SESSION

All full-time SM2 and Academic Year SM1 students are **REQUIRED** to participate in Winter Session activities (during the January term), whether for credit or not for credit, on-campus or off-campus, in accordance with their individual needs and interests. Winter Session is optional for part-time students. The Epidemiology Department requires students to formulate a plan for Winter Session and complete the Winter Session Survey (Link Below).

The HEAT will submit your proposal to your advisor for final review. It is suggested that you inform your advisor of your plan for the winter session prior to completing the survey. Assume your advisor has approved your proposal if you do not hear back from the HEAT by December 15, 2022.

Acceptable activities include:

- Courses
- Tutorials/independent study projects (with faculty members who are willing to take on this role)
- Travel tutorials
- Field placements
- Community service projects
- Courses organized and taught by students
- Skill-building workshops sponsored by administrative departments of the school

Approved activities need not be located on campus

Link Opens on November 14, 2022 https://harvard.az1.qualtrics.com/jfe/form/SV_0p3qlegV7XVEET4

For those traveling abroad for the winter session please check out the Global support services that Harvard offers and consider registering your trips online in our system. <https://www.globalsupport.harvard.edu/>

3.9 ADDITIONAL RECOMMENDATIONS

***Ph.D. students should also refer to the PHS Handbook for other degree requirements.**

Paper Writing: Students are encouraged to write additional papers even if they are not part of their doctoral thesis. This will strengthen their experience and serve as a record of productivity.

Authorship and Compensation: All of the usual authorship guidelines hold for students. Thus, if students are paid for work on a project or data analysis, the resulting paper can still be part of the thesis. One potential difficulty is that students supported on an NIH training grant may work part-time on another NIH-funded project only if that other project is not formally part of their training. This would restrict the use of some of that work for the doctoral thesis. Individual consultation with the advisor and training grant PI is clearly important in that situation.

Paying students for analyses does not justify their exclusion as an author if they are otherwise qualified, but authorship is not guaranteed. Payment for work and qualifying for authorship are independent.

Grant Writing: Students are strongly encouraged to gain experience in helping to write one or more grant proposals. Epi 205 (Ph.D. students) provides explicit training in this area, as does the PHS Wednesday seminar program (see [PHS Handbook](#) for more details). Additional courses and seminars may be available through the School or University and are posted on the Office of Education [website](#).

Presentation Skills: Students are encouraged to present their findings at seminars, and national and international meetings to develop their presentation skills. Courses and seminars may be available for guidance and are posted

on the website. Travel funds are sometimes available through training grants or research mentors, or other sources.

4.0 FINANCIAL AID AND GRADUATE FUNDING

4.1 FINANCIAL AID AND GRADUATE FUNDING OVERVIEW

Funding for graduate programs can come from a variety of sources, including but not limited to:

- Departmental (partial awards yearly for new and returning students)
- Doctoral training grant stipend/tuition awards (NIH funding through the department)
- Non-institutional awards (selective private/partial awards with specific criteria for eligibility)
- Loans and grants through the Office of Financial Aid
- Loans/scholarships that may be available from the student's home country or state, etc.

While the Department makes every effort to secure as many funding opportunities for new and returning students, there is no guarantee that every student will receive funding. Students are encouraged to seek out as many different sources of funding as early as possible. Students are expected to notify the Assistant Director of Graduate Studies of any new funding sources.

4.2 TRAINING GRANTS

The Department of Epidemiology has a long tradition of excellence in research and training. Through support from the National Institutes of Health (NIH), pre-and post-doctoral fellowships are available in the areas below. These fellowships are only available to citizens and permanent residents of the United States.

- Cardiovascular Epidemiology
- Cancer Epidemiology
- Environmental and Occupational Epidemiology
- Infectious Disease Epidemiology
- Psychiatric Epidemiology & Biostatistics
- Maternal and Child Health/Children, Youth and Families Center of Excellence (*managed by MCH*)
- Life Course Epidemiology (pending approval)

Application and Eligibility

Trainee positions open when current trainees graduate or leave the program. Candidates are reviewed selectively by the faculty during the admissions process and throughout the year. Training grant support for graduate studies is typically awarded to doctoral students, except in some cases for master's students with medical degrees or other relevant doctoral training. For more information on fellowships available through the Department of Epidemiology visit the [Funding Page](#).

Student Responsibilities and Expectations

Any doctoral student receiving a fellowship funded by the NIH must cite the granting agency on any papers or presentations based on work done as part of the training and the principal investigator can provide the appropriate wording for the citation. Some training grants require students supported by that grant to answer the substantive questions in that area and/or take a set of required courses; students are responsible for meeting these requirements. Trainees of NIH-funded training grants are required to complete a Responsible Conduct of Research offered by the Harvard Chan School during their first full year on the grant. For more information contact the Training Grant Manager (Rad Welch rwelch@hsph.harvard.edu).

Research Assistantship Restrictions

Students supported on an NIH training grant may be paid for part-time on another NIH-funded project only if that other project is not formally part of their training (for example, a physician on a training grant can do clinical evaluations for an unrelated study). Students who are funded through training grants should review all paid work options with the advisor and training grant PI before work has begun. For more information contact the Training Grant Manager (Rad Welch rwelch@hsph.harvard.edu). Paying students for analyses does not justify their

exclusion as an author if they are otherwise qualified, but authorship is not guaranteed. Payment for work and qualifying for authorship are independent.

4.3 TEACHING FELLOW EXPERIENCE

Students are strongly encouraged to gain teaching experience by serving as teaching assistants. This will help consolidate the understanding of the material and provide valuable experience in teaching. Often, faculty who write reference letters are asked to comment on teaching experience and skills. Teaching assistant positions are available throughout the academic year and during the summer session. Teaching assistants for core epidemiology courses are typically limited to students who have passed the departmental written exam.

Responsibilities (designated by the instructor) may include: attending lectures and organizational meetings, grading homework and exams, designing assignments and answer keys, holding office hours, updating the course site and coordinating room bookings/media requests, and running labs/leading seminars. Teaching Assistants are expected to respect confidentiality and privacy of student information ([FERPA](#)). New Teaching Assistants should participate in training at the beginning of the academic year. Ph.D. students should refer to the PHS Handbook for teaching training and requirements.

5.0 SM1 - MASTER OF SCIENCE SUMMER ONLY (42.5 CREDITS)

5.1 INTRODUCTION

Detailed below are the Epidemiology Department-specific requirements for the 42.5 credit Master of Science Summer-Only degree. These supplementary guidelines add to but do not replace the rules in the Harvard Chan Student Handbook and other listed epidemiology department requirements. The purpose of these guidelines is to standardize expectations across the master's students' experience while simultaneously maintaining vital flexibility in the program. If a student or faculty is concerned that they are unable to meet the requirements of the program, they should seek guidance from a member of the academic team.

The degree program equips physicians or professionals with a master's-level background in related disciplines with necessary quantitative skills. This program is completed over 3 summer semesters with the option to extend the program beyond the third summer on the stipulation that the final Summer, Fall, and Spring terms are dedicated to thesis credits only and no course enrollment is allowed beyond EPI 315. The 42.5 credit program is built on short courses of 1-3 weeks offered during the summer and winter academic sessions along with a few online options through the Master of Public Health in Epidemiology Online/On-campus degree program. This program requires a thesis proposal and a mentor in a home institution to be eligible for admission, and a completed thesis is required for graduation. Students also are assigned a Harvard Chan research mentor during their second year of studies. The sequence of courses taken by a student to satisfy this degree's requirement depends on whether the student begins training with the [Summer Program in Clinical Effectiveness](#) or the [Summer Session for Public Health Studies](#).

5.2 COMPETENCIES

At the end of the program, the student will be able to:

- Demonstrate basic skills in core public health sciences of epidemiology and biostatistics.
- Develop comprehensive knowledge of the role of epidemiology as a basic science for public health and clinical medicine to provide a quantitative approach to addressing public health and clinical problems.
- Interpret descriptive epidemiologic results to develop hypotheses of possible risk factors for diseases.
- Critically evaluate public health and medical literature through knowledge gained of the basic principles and methods of epidemiology, including disease (outcome) measures, measures of association, study design options, bias, confounding, and effect measure modification.
- Develop a foundation for designing valid and efficient protocols to address public health and clinical problems.

5.3 REQUIREMENTS

Required courses (21 credits): Students begin this program with the Program in Clinical Effectiveness or with the Summer Session Program in Public Health Studies. The following table lists the courses that are required for this program. All core courses below are required to be taken for Ordinal Grading.

Courses	Started Program with	
	Program in Clinical Effectiveness	Summer Session in Public Health Studies
Intro Epidemiology	EPI 208	EPI 500 and EPI 202
Intro Biostatistics	BST 206 and (BST 207 or BST 208)	BST 202 and BST 203
Advanced Epidemiology: Analysis	EPI 236	
Foundations for Public Health	ID 100 (Summer and Fall term)	
Advanced Epidemiology: Study Design	EPI 210	
Other Required Methods Courses	2.5 credits from methods courses offered in the summer or winter period or from an online course	

Elective courses (10-17.5 credits): Elective courses can be chosen from any course offered in the Summer Session or the Winter Session at the Harvard Chan School. Students in the Summer-Only, 42.5 Credit Master of Science Program are not permitted to take courses at the Harvard Chan School during the Fall or Spring semesters except for select online options. Fall online courses include:

Fall semester:

- EPI 526 - Analysis of Publicly Available Databases for Epidemiologic and Health Services Research
- EPI 527 - Design and Conduct of Trials in Preventive Medicine
- EPI 528 - Systematic Review and Meta-Analysis

Spring Semester:

- EPI 288 Introduction to Data Mining and Risk prediction
- RDS 202 Decision Science for Public Health
- BST 215 Linear Longitudinal Regression
- HPM 506 Improvement Science
- EPI 530 Infectious Disease Epidemiology

The courses listed above are part of the MPH in Epidemiology (MPH-EPI) Program. Students in that program have priority for enrollment, but these online courses are also available to summer-only degree students if space permits. Summer-only students are only allowed to enroll in online courses for a max of 6.5 credits per term and a max of 11.25 credits for their degree program. Consult [Jeffrey Noyes](#) with questions or concerns.

Thesis Credits – EPI 315 (5–12.5 credits): All students in the Master of Science Summer-only Program are required to complete a supervised research project (Master’s Thesis) before graduation. When submitted the thesis will need to be in a publishable format, but does not need to be published to be eligible for graduation. A potential proposal for a supervised research project is required with the application to the Harvard Chan School. The application should also include a letter from a local mentor indicating that the mentor has read the proposal and agrees to supervise the student on the project. Students need to complete a thesis under the direction of a local mentor and Harvard faculty member. The Harvard mentor (ideally from the Department of Epidemiology) is identified by the end of the second summer of course work after discussion with the head of this program (Faculty Director). This Harvard mentor assists in the supervision of the thesis project and determines when the project is completed (typically when there is a manuscript suitable for publication). Students can enroll in thesis credits (EPI 315) at any time of the year and can spread these credits over multiple periods of the year. Students must enroll for at least 5.0 EPI 315 credits and have the option of enrolling for up to 12.5 credits. The student determines the number of EPI 315 credits to obtain the 42.5 credits that are needed to complete this degree.

At least 30.0 credits must be graded on an ordinal scale. EPI 315 credits are graded Pass/Fail. Therefore, it is strongly suggested that students carefully limit any courses they take for a Pass/Fail grade as it might result in being unable to meet the 30.0 ordinal-graded credit requirement.

5.4 EPI 315 ENROLLMENT

Students should register for EPI 315 in the Summer session if the project is to be completed in time for a November graduation date. Enrollment in EPI 315 during Winter Session is required for a March graduation date or Spring Semester for a May graduation date.

Enrollment for EPI 315 credits is done through completing this [survey](#). After completing the survey, you can send the Thesis Planning Form to Dr. Pamela Rist and Jeffrey Noyes. Once you have added the appropriate section to your shopping cart, select the red “Request” button. This will send a request to the faculty member to approve you for the course.

Students who do not register for at least 2.5 credits during the summer session must submit a [Leave of Absence](#)

form to the Academic Administrator in the Department of Epidemiology before Add/Drop for Summer 1. Full-time Status in the program is 7.5 credits per summer term or 15 credits for the full summer session. International students who require a visa should contact the Harvard International Office if they will not be enrolled in full-time credits on campus.

5.5 COURSES

Starting Program with	Program in Clinical Effectiveness	Summer Session in Public Health Studies
Foundations for Public Health	ID 100	ID 100
Intro Epi (Year 1)	EPI 208 (5 credits)	EPI 500 (2.5 credits) EPI 202 (2.5 credits)
Intro Biostat (Year 1)	BST 206 (2.5 credits) BST 208 (2.5 credits)	BST 202 (2.5 credits) BST 203 (2.5 credits)
Advanced Epi (Year 2)	EPI 236 (5 credits) EPI 210 (2.5 credits)	EPI 236 (5 credits) EPI 210 (2.5 credits)
Additional Requirements (Year 1 and/or Year 2)	2.5 credits from EPI 202 (2.5) or EPI 288 (2.5) or EPI 293 (2.5) or EPI 271 (1.25) or EPI 209 (1.25) or EPI 509 (1.25) or BST 214 (2.5) or BST 224 (2.5) or BST 501 (2.5) or BST 213 (5)	2.5 credits from EPI 288 (2.5) or EPI 293 (2.5) or EPI 271 (1.25) or EPI 209 (1.25) or EPI 509 (1.25) or BST 214 (2.5) or BST 224 (2.5) or BST 501 (2.5) or BST 213 (5)
Thesis Requirement (Year 1 and Year 2)	EPI 315 (5 – 12.5)	EPI 315 (5 – 12.5)
Electives (Year 1 and Year 2)	10 to 17.5 credits	10 to 17.5 credits

Credit Requirement Note: Students must earn a minimum of 30 ***ordinal*** credits to graduate.

6.0 SM1 - MASTER OF SCIENCE ACADEMIC YEAR (42.5 CREDITS)

6.1 INTRODUCTION

Detailed below are the Epidemiology Department-specific requirements for the 42.5 credit Master of Science degree. These supplementary guidelines add to but do not replace, the rules in the Harvard Chan student handbook and other listed epidemiology department requirements. The purpose of these guidelines is to standardize expectations across the master's students' experience while maintaining flexibility in the program. If a student or faculty is concerned that he/she is unable to meet these requirements, the Assistant Director of Graduate Studies should be consulted.

6.2 COURSE COMPLETION

When pursuing the Academic Year, 42.5 credit Master of Science degree, students typically begin in the Fall semester, beginning in the summer session is also possible. Students interested in the summer should discuss their course plan with the Assistant Director of Graduate Studies or the Academic Assistant. Students are *not* required to write a thesis. Full-time students in this program must complete all required courses in **one academic year**. Academic year (residential) students are only allowed to enroll in online courses for a max of 3.75 credits per term and a max of 10 credits for their degree program.

6.3 COMPETENCIES

At the end of the program, the student will be able to:

- Demonstrate basic skills in core public health sciences of epidemiology and biostatistics.
- Develop comprehensive knowledge of the role of epidemiology as a basic science for public health and clinical medicine to provide a quantitative approach to addressing public health and clinical problems.
- Interpret descriptive epidemiologic results to develop hypotheses of possible risk factors for diseases.
- Critically evaluate public health and medical literature through knowledge gained of the basic principles and methods of epidemiology, including disease (outcome) measures, measures of association, study design options, bias, confounding, and effect measure modification.
- Develop a foundation for designing valid and efficient protocols to address public health and clinical problems.

6.4 COURSE REQUIREMENTS

ALL EPI and BIOSTATS requirements listed below must be taken for an ORDINAL grade	
EPI 201 *	Introduction to Epidemiology (2.5)
EPI 202	Elements of Epidemiologic Research (2.5)
EPI 203	Study Design in Epidemiologic Research (2.5)
EPI 204	Analysis of Case-Control and Cohort Studies (2.5)
ID 100	Foundations for Public Health (1)
BST 201	Introduction to Statistical Methods (5)
BST 210 or 213	Analysis of Rates and Proportions (5) or Applied Regression for Clinical Research (5)
Credit Requirements	
42.5	Total Credits Earned
30/42.5	Ordinal Credits
10	Ordinal Credits in Epidemiology (minimum)
10	Ordinal Credits in Biostatistics (minimum)

* Students beginning the program in the Summer can replace EPI 201 with either EPI 208 or EPI 500. In this case, it is advisable to consult with the instructor of EPI 202 regarding course preparation. Please contact the Assistant Director of Graduate Studies. *If students are approved to waive EPI core courses based on a prior study at HSPH or another institution, they are still required to complete 10 ordinal credits in Epi Coursework during their SM1 program.

7.0 MASTER OF PUBLIC HEALTH IN EPIDEMIOLOGY (45 CREDITS)

7.1 INTRODUCTION

The Master of Public Health in Epidemiology (MPH-EPI) Program combines broad-based competency training in core areas of Public Health with rigorous training in epidemiologic methods and applications. The MPH-EPI Program is a 45-credit program with one-third of the credits earned on campus and two-thirds of the credits earned online and in the field. The two-year schedule and online format allow students to complete a mentored and student-initiated MPH Practicum at their home site. Students in this program benefit from three modes of training: On-campus, online, and in the field.

On-campus training provides traditional face-to-face learning from Harvard faculty during three brief periods and includes structured exercises to provide the basis for team building and peer education among the students. Online Training provides the flexibility for students to learn on their own schedule and at their selected pace. Discussion forums, group exercises, and scheduled web-based, video conferences provide the basis for continued interaction among students and faculty. In the field training provides the opportunity to apply skills obtained from on-campus and online training to address a public health issue of interest, selected by the student, and under the mentoring supervision of a Harvard faculty member.

Through a series of required methods courses during the first year of the program, students in this program will have the same in-depth training in Epidemiology as the department's 42.5 Master of Science in Epidemiology. Required Public Health Core Courses offered at the beginning of the second year provide the breadth of training expected in all Masters of Public Health Program at the Chan School. Limited elective courses offered during the second year of this program provide the students additional training in targeted areas of interest. Students initiate an MPH practicum by the end of the first year, complete the practicum during the second year, and present the results of the practicum at the end of the second year.

Online instruction will include both asynchronous and synchronous formats. The asynchronous format allows students to view lecture videos and complete exercises on their own schedules. The synchronous component of each course utilizes scheduled small group workshops and assignments, mentored by faculty.

Please visit [MPH-EPI](#) for the full student handbook.

8.0 MASTER OF SCIENCE IN COMPUTATIONAL BIOLOGY & QUANTITATIVE GENETICS

8.1 INTRODUCTION

The Master of Science in Computational Biology and Quantitative Genetics (CBQG) is designed for students seeking both theoretical and practical training in the quantitative analysis and interpretation of large-scale, public health genomic data.

Students will receive training in Quantitative Methods, including:

- linear and logistic regression
- survival analysis
- longitudinal data analysis
- statistical computing
- clinical trials
- statistical consultation and collaboration
- epidemiology

Students will also gain a strong foundation in:

- modern molecular biology and genetics
- computer programming
- the use and application of tools for analysis of genomic data
- methods for integrative analysis
- meta-analysis of genes and gene function

The program, which is typically completed in 18-24 months, requires a minimum of 60 credits of course work and a supervised 10-20-credit Collaborative Research Thesis. The Collaborative Research Thesis is carried out at selected research institutions where trainees will have access to mentoring by experienced quantitative scientists with expertise in the analysis of genomic data. The thesis is presented in both oral and written form before a committee consisting of the thesis advisor and two additional program faculty.

For more detailed curriculum and academic information regarding this degree please see the [CBQG Student Handbook](#).

9.0 SM2 - MASTER OF SCIENCE (80 CREDITS – 2 YEARS)

9.1 INTRODUCTION

Detailed below are the Epidemiology Department-specific requirements for the 80 credit Master of Science Program (SM2). These supplementary guidelines add to but do not replace, the rules in the Harvard Chan School student handbook and other listed epidemiology department requirements. The purpose of these guidelines is to standardize expectations across the master's students' experience while simultaneously maintaining vital flexibility in the program. If a student or faculty member believes these guidelines are not met, the Assistant Director of Graduate Studies should be consulted.

All students in the 80 credit Master of Science Program are required to complete a supervised research project (Master's Thesis) before graduation. The academic advisor may serve as a research mentor on the thesis requirement or a different research mentor may be identified. Students should discuss research options with their academic advisor.

9.2 COMPETENCIES

At the end of the program, the student will be able to:

- Demonstrate basic skills in core public health sciences of epidemiology and biostatistics.
- Develop comprehensive knowledge of the role of epidemiology as a basic science for public health and clinical medicine to provide a quantitative approach to addressing public health and clinical problems.
- Interpret descriptive epidemiologic results to develop hypotheses of possible risk factors for diseases.
- Critically evaluate public health and medical literature through knowledge gained of the basic principles and methods of epidemiology, including disease (outcome) measures, measures of association, study design options, bias, confounding, and effect measure modification.
- Develop and apply quantitative skills to analyze and synthesize epidemiologic data related to public health issues.
- Apply knowledge of the physiology and pathophysiology of human disease to epidemiologic studies.
- Develop the skills to interpret the methods for disease screening.
- Develop substantive knowledge of the epidemiology of infectious and chronic disease and apply this knowledge to public health issues.
- Design an epidemiologic investigation (Master's Thesis) resulting in a publishable manuscript or grant application.

9.3 THESIS REQUIREMENTS AND GUIDELINES

In addition to the course requirements, candidates in the SM2 program must complete a master's thesis. This requirement can be fulfilled in one of two ways:

1. Presentation of a published or publishable manuscript on any topic in epidemiology.
2. Presentation of a feasible study protocol in the general form of an R01, R03, or R21 grant proposal application, or playing a major role in preparing such a grant for submission.

The text of the manuscript or protocol should be about 2500 - 3500 words in length and should not exceed 6000 words. The thesis must be the result of work done after matriculation in the department, but may also draw on earlier efforts. The paper may have several authors, but the student must legitimately be the first author. If a research protocol is submitted for the thesis requirement, the student does not need to be the principal investigator but must have a major role in preparing at least one section of the proposal. Students must present an acceptable plan for preparing the thesis to the academic advisor no later than the end of Fall 1 year 2. The SM2 Faculty Director must also accept the plan.

The student's academic advisor must approve the finished thesis and sign a Thesis Submission [Form](#) before submitting it to the SM2 Faculty Director.

SM2 students have a maximum of 5 Epi 300 credits. SM2 students who take the Thesis Capstone will receive an

additional 2.5 credits to use towards the thesis capstone. SM2 cannot exceed more than 7.5 independent study under any circumstances. For part-time SM candidates, the timeline applies to the 3rd and 4th years of study. Failure to submit the thesis by the deadline will result in non-compliance with a departmental requirement and will lead to ineligibility for graduation. In the past, students have had to postpone graduation when failing to meet the deadline.

Epi 300 (Independent Study) will not count towards the 30 required epi credits, but it will count towards the overall 80 required credits.

Master’s candidates who apply and matriculate into the Ph.D. PHS program may, in some instances, use the master’s thesis as the basis for one of their doctoral thesis papers.

9.4 Thesis Capstone and Poster Symposium (Optional)

SM2 Epidemiology Thesis Writing Course

The goal of the course is to provide students with input and feedback on the writing and development of the Master’s Thesis. The input will come both from the Teaching Fellows who will be leading the in-person sessions (we have identified outstanding epidemiology post-doctoral fellows to lead the sessions) as well as peer-to-peer feedback in a small group setting.

Students will be meeting in their small groups and teaching fellow 4-6 times during Spring I and II, at time(s)/day(s) that works best for each group. In addition to written and oral feedback on the thesis, there will be some didactic presentations on effective writing of different sections of the thesis. EPI 300 credits dedicated towards the Thesis Writing Course will not count towards the 5 credits allowed towards thesis work.

To enroll in the course:

- Sign up for Epi 300 course (Lorelei Mucci).
- Select full spring term.
- Choose 2.5 units for the course.

Thesis Symposium

Graduating SM2 Epidemiology students are invited to present their research at the optional Master's Thesis Symposium that occurs every May. We recognize the great care that went into selecting your thesis topic and we welcome you to share your findings with the Harvard Chan community. This is an opportunity to develop presentation skills that you will use throughout your career, connect with others, and share new and exciting ideas.

9.5 THESIS TIMELINE

Year 1	Year 2
May 2022- Finalize Topic	October 2022- Submit your thesis proposal and form approval form SM2 Thesis Epidemiology Canvas Page. https://canvas.harvard.edu/courses/57215 The approval form must have signatures from your academic advisor .
Summer 2022-Work on finding data	April 28, 2023- Thesis DRAFT due to ACADEMIC advisor
	May 4 th 2023 Thesis Symposium
	May 18, 2023 Thesis Due. Please submit at https://canvas.harvard.edu/courses/57215

Year Two

Fall -- Master’s thesis topic formalized and submitted to the academic advisor for approval and then to the Department [SM2 Thesis Epidemiology Page](#). The submission needs to be **one page** outlining the paper’s

hypothesis in addition to describing the research methods and data to be employed. After receiving approval from your academic advisor upload your proposal to the [SM2 Thesis Epidemiology Page](#) . It must be submitted before the end of the Fall 1 term. The Faculty Director will review all submissions and will send an e-mail of approval or disapproval of the topic with revision suggestions if not approved.

Spring-- It is suggested that a draft of the thesis be submitted to the academic advisor by the beginning of the Spring 2 term to allow time for review and revisions (this is only meant to be a guideline). All thesis and approval forms must be uploaded to the [SM2 Thesis Epidemiology Page](#), by May18, 2023 The Epi Masters Symposium will be on May 4 2023.

9.6 COURSE REQUIREMENTS

Labs must be taken simultaneously with the designated courses.

ALL EPI and BIOSTATS requirements listed below must be taken for an ORDINAL grade	
Fall 1st year	Courses
EPI 201(Fall 1)	Introduction to Epidemiology (2.5)
EPI 201 Lab (Fall 1)	Introduction to Epidemiology LAB (0)
EPI 202 (Fall 2)	Elements of Epidemiologic Research (2.5)
EPI 202 Lab (Fall 2)	Elements of Epidemiologic Research LAB(0)
BST 201(Full Fall)	Introduction to Statistical Methods (5)
ID 100(Full Fall)	Foundations For Public Health (1)
Spring 1st year	Courses
EPI 203(Spring 2)	Study Design in Epidemiologic Research (2.5)
EPI 204(Spring 2)	Analysis of Case-Control and Cohort Studies (2.5)
EPI 204 Lab(Spring 2)	Analysis of Case-Control and Cohort Studies Lab (0)
EPI 289 (Spring 1)	Causal Inference (2.5)
EPI 289 Lab(Spring 1)	Causal Inference Lab (0)
Fall or Spring of 1st or 2nd Year	Courses
BST 210 or BST 213	Applied Regression Analysis (5) <u>or</u> Applied Regression for Clinical Research (5)
Strongly Recommended Courses	
EPI 215	Advanced Topics in Case Control and Cohort Studies (2.5)
EPI 515	Measurement Error and Misclassification for Epidemiologists (1.25)
EPI 207	Advanced Epidemiologic Methods (2.5)
EPI 247	Epidemiologic Methods Development (2.5)
BST 223	Applied Survival Analysis & Discrete Data (5)
BST 226	Applied Longitudinal Analysis (5)
EPI 507	Principles of Genetic Epidemiology (2.5)
Credit Requirements	
80	Total Credits Earned
60	Ordinal Credits
20 Pass/Fail(max)	P/F credits are optional, you can take all course for Ordinal
25/30*	Ordinal Epidemiology Credits
15	Ordinal Biostatistics Credits

Academic year (residential) SM2-EPI 80 credits students are limited to a maximum of 3.75 online credits in any semester and a maximum of 10 online credits overall out of the required 80 credits for the SM2-EPI 80 credits. **International students who want to enroll in online credits must contact the Assistant Director or Manager of Academic Affairs.**

*Students in the 80 credit master of science program are required to complete 30 Epidemiology credits. 25 of the 30 credits need to be for ordinal grading, the remaining 5 can either be ordinal or pass/fail.

Course that are allowable as Epidemiology credits:

- Course that begins EPI prefix (excluding EPI 300/311/350)
- Course that begin with ID prefix + include ‘epidemiology’ in title
 - Examples: ID 214; Nutritional Epidemiology, ID 215; Environmental & Occupational Epidemiology, ID 269; Respiratory Epidemiology, etc.
- Other elective courses that count toward epidemiology credits
 - WGH 211 Gender and Health: Intro Perspectives
 - SBS 236 Social Epidemiology
 - GHP 255 HIV Interventions: Rationale, Design, and Evaluation

9.7 SAMPLE SCHEDULE

Labs must be taken simultaneously with the designated course.

Year One Fall Semester		
EPI 201	Introduction to Epidemiology (2.5)	Fall I
EPI 201 Lab	Required Lab (0)	Fall I
EPI 202	Elements of Epidemiologic Research (2.5)	Fall II
EPI 202 Lab	Required Lab (0)	Fall II
BST 201	Introduction to Statistical Research (5)	Fall
Electives	10 Credits	
Year One Winter Session		
See Section <u>3.8 WINTER SESSION</u>		
Year One Spring Semester		
EPI 204	Analysis of Case-Control and Cohort Studies (2.5)	Spring I
EPI 204 Lab	Required Lab(0)	Spring I
EPI 289	Causal Inference (2.5)	Spring I
Epi 289 Lab	Required Lab (0)	Spring I
EPI 203	Study Design in Epidemiologic Research (2.5)	Spring II
BST 210	Applied Regression Analysis (5)	Spring
Electives	7.5 credits	Spring
THESIS	Begin work on topic/research	Spring
Year Two Fall Semester		
Electives	20 credits	Fall
THESIS	Work on thesis	Fall
Year Two Winter Session		
See Section <u>3.8 WINTER SESSION</u>		
Year Two Spring Semester		
Electives	20 credits	Spring
THESIS EPI 300	Work on thesis	Spring I
THESIS	Submit to Advisor at the beginning of Spring I for review/edits	Spring I
THESIS	Submit thesis and approval form to SM2 Thesis Page	Spring II

10.0 PhD in Population Health Sciences (PHS – Epidemiology)

10.1 INTRODUCTION

The overarching goal of this program is to foster scholarship in developing new and innovative ideas in population health sciences, improve communication of those ideas effectively, and understand changing health needs in different societies and contexts. Overall, “Population Health” captures the social and biological dimensions of human groups. It also demonstrates the common perspective that underlies the Fields of Study with ‘population’ as the object of study, target of inference, intervention, and improvement. Thus, Population Health Sciences presents an umbrella framework to reflect the general changes in our understanding of population health worldwide, to answer a call for multidisciplinary researchers in the health sciences, and also to respect the need for depth in a particular area of expertise.

The Program includes five Fields of Study: **Epidemiology, Environmental Health, Global Health and Population, Nutrition, and Social and Behavioral Sciences**. Students choosing Epidemiology as their Field of Study follow the general PHS courses as well as a sequence of courses designed to develop their knowledge of epidemiologic methods and substantive fields. Based on the selected area of specialization, students complete a set of elective courses and conduct thesis or dissertation research. Some areas of interest have a list of suggested and/or required courses for degree completion. Please review your appropriate course list and contact the Assistant Director of Graduate Studies with any questions. For more detailed curriculum and academic information regarding this degree please see the [Population Health Sciences Handbook](#) or contact the Assistant Director of Graduate Studies Department of Epidemiology.

10.2 COMPETENCIES

At the end of the program, the student will be able to:

- Demonstrate basic skills in core public health sciences of epidemiology and biostatistics.
- Develop comprehensive knowledge of the role of epidemiology as a basic science for public health and clinical medicine to provide a quantitative approach to addressing public health and clinical problems.
- Interpret descriptive epidemiologic results to develop hypotheses of possible risk factors for diseases.
- Critically evaluate public health and medical literature through knowledge gained of the basic principles and methods of epidemiology, including disease (outcome) measures, measures of association, study design options, bias, confounding, and effect measure modification.
- Develop a foundation for designing valid and efficient protocols to address public health and clinical problems.
- Apply knowledge of the physiology and pathophysiology of human disease to epidemiologic studies.
- Apply quantitative skills to analyze and synthesize epidemiologic data related to public health issues.
- Apply knowledge of the physiology and pathophysiology of human disease to epidemiologic studies.
- Apply knowledge of classical and modern epidemiologic methods to study design.
- Develop the skills to interpret the methods for disease screening.
- Develop substantive knowledge of the epidemiology of infectious and chronic disease and apply this knowledge to public health issues.
- Design an epidemiologic investigation (Dissertation) resulting in a publishable manuscript or grant

application.

10.3 REQUIRED COURSES

PHS Required courses			
Course Number	Course Name	Timing	Number of Credits (HSPH credits)
PHS 2000 A	Quantitative Research Methods in PHS	Fall	5 credits
PHS 2000 B	Quantitative Research Methods in PHS	Spring	5 credits
PHS 2000 - Lab	Quantitative Research Methods in PHS	Full Year	N/A
SBS 506	History, Politics, & Public Health	Fall One	2.5 credits
EPI 201	Introduction to Epidemiology	Fall One	2.5 credits
EPI 202	Elements of Epidemiological Research	Fall Two	2.5 credits
HPM 548 (or approved equivalent)	Responsible Conduct of Research	Fall Two	1.25 credit
FoS-Required Courses	See table below	Varies	Varies
PHS Wednesday Evening Seminar	PHS Wednesday Night Seminar	Full-Year	N/A

Field of Study- EPI Required Courses (HSPH credits)	
ALL EPI and BIOSTATS requirements listed below must be taken for an ORDINAL grade	
EPI 201	Introduction to Epidemiology: Methods I (2.5)
EPI 202	Epidemiologic Methods 2: Elements of Epidemiologic Research (2.5)
EPI 203	Study Design in Epidemiologic Research (2.5)
EPI 205	Practice of Epidemiology (2.5) Spring of PQEI
EPI 207	Advanced Epidemiologic Methods (2.5)
EPI 247	Epidemiologic Methods Development (2.5)
EPI 289	Causal Inference (2.5)

EPI 507	Principles of Genetic Epidemiology (2.5)
BST 223 or BST 226	Applied Survival Analysis and Discrete Data Analysis (5) or Applied Longitudinal Analysis (5)
BPH 208	Human Physiology (5)
BPH 210	Pathophysiology of Human Disease (5)
Strongly Suggested Courses	
EPI 215	Adv. Topics in Case-Control and Cohort Studies (2.5)
EPI 515	Measurement Error and Misclassification for Epidemiologists (1.25)

Credit required before written exam (HSPH credits) – see the section on prospective/final program	
80	Total Credits Earned
20	Ordinal epidemiology credits towards major
10	Ordinal credits towards substantive minor
10	Ordinal credits towards biostatistics minor

10.4 PQEI/WRITTEN EXAM OVERVIEW

The written examination is divided into two portions and students entering the program without a prior Harvard Chan Masters' degree will take the exam at the end of the Spring semester of their second year. Those students entering the program with an SM or MPH from the Chan School will have the opportunity to take the exam Spring of their first year.

The first session covers methods, including aspects of study design, analysis, and causal inference. As a guideline, a student should not attempt this exam until she or he has completed all of the courses below, but the questions are cross-cutting rather than being focused within material covered in individual courses.

Courses to complete before attempting the Written Exam	
PHS 2000A/B	EPI 247
BST 223 or BST 226	EPI 289
EPI 201 and EPI 202	EPI 507
EPI 203	EPI 207

The second session covers substantive knowledge of epidemiology and is used to exam breadth in the field. Students will be asked to pre-select three areas of concentrations including their own by the end of Spring 1, before the exam. During the exam, students will write a structured critique and design a follow up study for one paper from their own area of specialization plus one paper from one of two areas of concentrations outside of their own.

Note: The Methods area will not have a separate paper, students in this area will be asked to select three areas outside of their own for the substantive exam. The Department holds an information session each December and will cover details on the exam and provide additional resources to prepare for the exam.

Students are allowed and encouraged to enroll independent study credits with their advisor before the exam. These credits provide students with dedicated time to study. Students are allowed to enroll in a maximum of 5 HSPH independent study credits towards the exam in the spring term of the exam.

10.5 PROCEDURE FOR THE EXAMINATION

The examination is offered once a year in late May. Candidates are asked to notify the Assistant Director of Graduate Studies of their intention to sit for the exam before winter break.

The method exam is closed book and closed internet. Calculators are provided for use during the exam. Before the exam, copies of previous years' exams will be available for review. Keep in mind that each year's exam is different and those previous exams should only be utilized to assist you in practicing to take this type of exam.

The written examination is graded blindly. Once the exams are graded, the decision of pass, pass with commendation (high scores), conditional pass or fail of the written exam represents the consensus of the faculty, and in borderline cases may take into account the student's overall academic performance. The department typically notifies students in writing (email) of the results two weeks after the exam.

Any student who fails the written exam is allowed, subsequent to a discussion between the student, the student's advisor, and the Chair, a second and final attempt during the next examination period. The methods and substantive portions are graded separately; students who pass one portion but not the other on the first attempt are only required to retake the portion that they failed. Occasionally students with marginal performance or specific areas of weakness will be awarded a *conditional* pass on the written examination; in this case, additional coursework and/or further examination during the oral examination will be required.

10.51 Practice of Epidemiology/EPI 205.1 & EPI 205.2

Practice of Epidemiology is a course specifically for PhD student in the Nutrition and Epidemiology field of studies. The course is designed to support students as they prepare for their PQEI/Oral Exam and serves as a resource for students who wish to submit a grant application.

EPI 205.1 and EPI 205.2 must be taken consecutively. EPI 205.1 is offered in Spring 2 and EPI 205.2 is offered in Fall 1. Student will have the option to take this either leading up to the PQEI or in the year following the first qualifying exam. Students must complete this course before sitting for their PQEII. It is recommended that students without a prior degree from Harvard Chan should take this course sequence concurrent with PQEI preparations.

Note: EPI 205.1 will take place in Spring 2 (same year as the PQEI, for most) and would consist of developing grant writing skills, reviewing potential topics for research proposals, and identifying a faculty research mentor. EPI 205.2 will be take place in the following Fall 1 term and would be dedicated to presentations, critiques, and group editing. The rationale here is that this new set up of the course would allow students to focus on preparing for their PQEI at the end of Spring 2 and then have the summer to flesh out their proposal for EPI 205.2 in the Fall 1 term.

10.6 PROSPECTIVE PROGRAM

The prospective program is a required [planning document/form](#) to be completed by during the first year of the program. The purpose of the form is to help students plan their coursework so that they are sure to meet all field of study and program-wide requirements by the end of the second year. This form is only required for students starting the program as a G1 (no prior Chan masters degree). The completed form is due to the Assistant Director of Graduate Studies on the first Monday in June (year 1). A meeting with the student and mentor should be planned to discuss the coursework listed on the prospective program before submitting the form.

The department will host an information session on how to complete the form each spring.

10.7 FINAL PROGRAM/NOMINATE RESEARCH COMMITTEE (PQEII)

The final program ([link to share point](#)) is a continuation of the prospective program. All Ph.D. students are required to submit this form by the last day of the fall term immediately after passing the written exam (PQEI). The form has two major sections; completed academic requirements with grades and nomination of your oral exam (PQEII) committee.

The department will host an information session on how to complete the form each fall.

10.8 ORAL EXAM/COMMITTEE MEMBERSHIP

Committee membership: The Oral Examining Committee must have at least three members, representing Epidemiology, Biostatistics, and the student's substantive area. Faculty who examine in Epidemiology must have an appointment in Epidemiology at HSPH. Faculty who examine in Biostatistics must have an HSPH appointment, either in Biostatistics or in Epidemiology with an ScD/Ph.D. in Biostatistics. The third member may hold a faculty appointment at another Harvard institution.

Oral Exam: The oral exam is a presentation of your dissertation proposal. Exams typically last 2 hours and include a brief presentation of the proposal (20-30 minutes), followed by questions from your committee and further discussion of your aims and confirming your knowledge of epidemiologic methods, data analysis, and substantive specific information. Students are expected to share a 10-20 proposal with their committee at least 2 weeks before the exam.

10.8 DISSERTATION/COMMITTEE MEMBERSHIP & MEETINGS

Committee membership: Nomination of the Research Committee After passing the Oral Qualifying Examination, students, in consultation with their advisor, nominate a Research Committee to oversee progress toward the completion of the dissertation. The Committee consists of the research /academic advisor, who serves as the Chair of the Committee, and a minimum of two other faculty members. It is strongly recommended that these faculty members also be members of the student's Oral Examining Committee. The research advisor must be from the student's department. However, members of the Research Committee may include faculty members outside the Harvard Chan School. The nomination of the Committee must be submitted to the field of study within two weeks of satisfactory completion of the Oral Qualifying Examination. The student's first Research Committee meeting should be within 3 months of the satisfactory completion of the Oral Qualifying Examination and will continue to meet every three months until the student defends.

10.9 OTHER REQUIREMENTS & ADDITIONAL RECOMMENDATIONS

***Ph.D. students should also refer to the PHS Handbook for other degree requirements.**

Teaching Fellowship: Doctoral students in the Ph.D. in Population Health Studies (PHS) with a field of study in Epidemiology must serve as a Teaching Fellow (TF) in at least 5 credits of Epidemiology courses. These 5 credits can count towards your total teaching requirement for PHS. Acceptable courses will begin with the prefix EPI or PHS. Additionally, ID (interdepartmental courses) with "Epidemiology" in the title will be accepted as well. The department will track this requirement automatically, no further action is required on behalf of the student.

Paper Writing: Students are encouraged to write additional papers even if they are not part of their doctoral thesis. This will strengthen their experience and serve as a record of productivity.

Grant Writing: Students are strongly encouraged to gain experience in helping to write one or more grant proposals. Epi 205 provides explicit training in this area, as does the PHS Wednesday seminar program (see [PHS](#)

Handbook for more details). Additional courses and seminars may be available through the School or University and are posted on the Office of Education [website](#).

Presentation Skills: Students are encouraged to present their findings at seminars, and national and international meetings to develop their presentation skills. Courses and seminars may be available for guidance and are posted on the website. **Travel** funds are sometimes available through training grants or research mentors, or other sources such as the [Brian and Heidi MacMahon Epidemiology Educational Fund](#). Contact [Caroline Huntington](#) for more information

11.0 INTERDISCIPLINARY CONCENTRATIONS & COURSE LISTINGS

11.1 INTERDISCIPLINARY CONCENTRATIONS

Degree candidates have the option of pursuing interdisciplinary concentrations in which their home departments participate. These concentrations are non-degree programs designed to deepen students' experience in academic or professional areas aligned with their career goals. Learn more about these concentrations through the Interdisciplinary Concentration [webpage](#).

- [Women, Gender and Health](#)
- [Epidemiology of Infectious Disease](#)
- [Maternal and Child Health/Children, Youth, and Families](#)
- [Obesity Epidemiology and Prevention](#)
- [Public Health Leadership](#)
- [Humanitarian Studies, Ethics, and Human Rights](#)
- [Nutrition and Global Health](#)

11.2 Course Listing

To best determine the courses one should take for an interdisciplinary concentration, students should refer to the course lists on the Department of Epidemiology's [webpage](#). Additionally, if students need guidance on how to plan the interdisciplinary concentration, they should contact their advisors or the academic coordinators.

12.0 STUDENT RESOURCES AND INFORMATION

H.E.L.P (Harvard Epi Logistics Portal)

A One-stop-shop [Canvas](#) site for Epi Student resources that contains Department of Epidemiology frequently requested questions, forms, dates, etc. The HEAT encourages all students reference [H.E.L.P.](#) first.

Link: <https://canvas.harvard.edu/courses/71868>

John Graunt Society

The John Graunt Society is a doctoral student-led organization sponsored by the Department. The Society is open to all Epidemiology doctoral students and meets regularly throughout the year. The goals of the Society are to provide a supportive forum for doctoral students to share and discuss their ongoing research and graduate student life. The Society has organized events including seminars in which students can practice and receive feedback on presentations for conferences and thesis defenses, and special educational seminars on programming in SAS and R. The group also sponsors social activities that encourage the development of the Epidemiology doctoral student community.

SM2 Program Assistants (PA)

The Program Assistant (PA) position is an opportunity for second-year SM2 students to gain leadership and development skills. This position requires PAs to plan the SM2 thesis symposium, coordinate capstone course logistics, maintain the SM2 canvas site, mandatory participation in admitted student activities, and being the voice for SM2 program matters. The Program Assistant will also be responsible to train first-year master's students and prepare them to assume the PA position for the following year.

Program Assistants will work closely with Dr. Lorelei Mucci and Caroline Huntington

The Epidemiology Peer Mentor Buddy System

Each year new students to the masters and Ph.D. programs are paired with a current student who takes time to answer questions and assist with concerns related to the new student's academic career. Peer mentors provide guidance as new students become acclimated to the Harvard Chan School environment. These student pairs are encouraged to maintain communication and participate in department social events throughout the year. Contact [Caroline Huntington](#) for more information.

Harvard Chan Student Government

The Student Coordinating Committee (SCC) is the Harvard T.H. Chan School of Public Health's student government. SCC works closely with faculty and administration on important school-wide issues. The Student Government also organizes and sponsors social, educational, and community service events. Visit their [webpage](#) to learn how you too can become involved. For GSAS, visit [Graduate Student Council](#) and contact the PHS Office.

13.0 DEPARTMENT RESOURCES

Every effort is made to provide Epidemiology students with physical and academic resources to support academic goals. We strive to make your time in this department an enriching and rewarding experience.

The [EpiCenter](#) Newsletter

The engaging Epidemiology Department Newsletter is a resource for applicants, students, alumni, and faculty to stay up-to-date on current activities, awards, and epidemiology-related news. All are invited to submit news of interest to [Coppelia Liebenthal](#), Manager of Academic Affairs, and Communications Committee Chair.

Copying/Fax/Scanning

Copy, Fax, and Scanning capability are provided on a very limited basis in the department. Large print jobs should be sent to the print shop so the machine is available during office hours. Students can check with the Office Manager for usage.

Copyright and Reproduction of Articles/Publications for research conducted on campus

Students are advised to comply with all school policies regarding the copying of articles and journal publications whether they are published on or off-campus.

Mailboxes and Communication

Epidemiology doctoral and 80 credit masters students are allocated mailboxes in the department on the 9th floor of Kresge.

Harvard e-mail addresses will be used for communication from the Epidemiology department as well as regular mail. Students are responsible for checking all allocated mailboxes and e-mail for information.

Desk Space for Doctoral Students

Desk Space, in Kresge and 911, is currently assigned to doctoral. Doctoral students will only be considered after passing the departmental written exam. Desks usually become available when students graduate or find alternative arrangements. Students may contact the Assistant Director of Graduate Studies for more information.

Graduate School Funding

The Epidemiology Department can assist new and current students with inquiries about departmental and training grant [funding opportunities](#). Inquiries about loans, scholarships, and awards can be directed to the [Office of Student Financial Services](#).

Securing Basic Needs

Any students who face challenges securing their food or housing and believe that this may affect their performance in the program are urged to contact the Office of Students Affairs (OSA) for support. Furthermore, please notify the Epi Academic Team, if you are comfortable in doing so, to enable us to provide additional support or resources.

Room Reservations

Epidemiology students are welcome to use the library (Kresge, Room 907) for group meetings or study sessions. Reservation can be made in advance by calling 617.432.7973. Students may contact [Jeffrey Noyes](#) for more information. Before requesting space please visit [Bookit](#) to check booking policies and availability.

ALUMNI SERVICES

Alumni are valuable to the department and are invited to stay connected to the department and faculty. During the graduation process, the department invites your feedback concerning our curriculum, as well as your overall experience in the department through a survey. Career support and advice are available through the [Career Advancement](#) site.

Post-Doctoral Services

Post-Doctoral Fellows and Researchers are a vital part of our department's success. Post-doctoral research fellows are trainees working in an apprenticeship mode in preparation for a career as scientific professionals. Post-doctoral fellows are provided with mentors and assume responsibility for the development of their research and careers. Upon seeking advice of the mentor and other faculty members, fellows perform required research.

[The Harvard Chan Postdoctoral Association](#) is a great resource for Postdoc Fellows. Here you will find information on PDA initiatives, professional development, benefits, and useful links. If you have any questions or comments, please do not hesitate to [contact us](#).

Harvard Chan Student-Community Action Partnership

Interested in exploring, working, and taking action with Boston communities on health and social justice-related issues? [Harvard Chan S-CAP](#) is committed to increasing the presence of the Harvard Chan School in the surrounding Boston area and engaging with social justice issues that impact local communities, especially those affecting health. Contact hsph.scap@gmail.com to become involved.

Student Life at Harvard Chan

Many academic, cultural, and social activities take place for students at the school, at Harvard, and in Boston. Please explore the Harvard Chan [Student Life Webpage](#) to find out what's going on in our community.

Staying connected

Alumni, Post-Doctoral Researchers associated with the Epidemiology department as well as the School of Public

Health, are encouraged to stay connected to the department by:

- [Volunteering time](#) to speak with prospective applicants about your experiences
- Sharing your research and experiences at scheduled [seminars and workshops](#)
- Applying for pre/post-doctoral fellowships and training grants- [Fellowships and Funding](#)
- Contributing to the departmental newsletter [EpiCenter](#)
- Keeping us informed of your research and career achievements- [Contact Us](#)
- [Updating](#) your contact information to stay tuned on job and funding opportunities