

SCHOOL OF PUBLIC HEALTH

Department of Epidemiology

Department of Epidemiology

Student Handbook 2016-2017



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1.0	INTRODUCTIONS	
	1.1 WELCOME TO THE DEPARTMENT OF EPIDEMIOLOGY	5
	1.2 PREFACE	5
2.0	ADMINISTRATIVE	
	2.1 Department of Epidemiology Administrative Organization	6
	2.2 Associated Departments	6
	2.3 Important Academic Dates 2016-2017	7-8
3.0	GENERAL ACADEMIC INFORMATION	
	3.1DEGREE	9
	3.2 AREAS OF INTEREST	9
	3.3 AREAS OF INTEREST RELATED COURSES	9
	3.4 ADMISSIONS POLICIES AND REQUIREMENTS.	10
	3.5 ADVISORS	10
	3.6 COURSE WAIVERS	11
	3.7 INDEPENDENT STUDY/TUTORIAL (EPI 300)	11
	3.8 TEACHING CREDITS (EPI 311)	11
	3.9 WINTER SESSION)	11
4.0	FINANCIAL AID AND GRADUATE FUNDING	
	4.1 FINANCIAL AID AND GRADUATE FUNDING OVERVIEW	12
	4.2 TRAINING GRANTS	12
	4.3 TEACHING ASSISANT EXPERIENCE	12
5.0	SM1 - MASTER OF SCIENCE SUMMER ONLY (42.5 CREDITS)	
	5.1 INTRODUCTION	13
	5.2 COMPETENCIES	13
	5.3 REQUIREMENTS	13-14
	5.4 EPI 315 REGISTRATION	14
	5.6 COURSES	15
6.0	MASTER OF PUBLIC HEALTH IN EPIDEMIOLOGY (42.5 CREDITS)	
	6.1 INTRODUCTION	16

	6.2 COMPETENCIES	16
	6.3 SCHEDULE	17
	6.4 SAMPLE SCHEDULE	18
	6.5 MPH-EPI PRACTICUM	18
	6.6 MPH-EPI PRACTICUM SCHEDULE	19
7.0	SM1 - MASTER OF SCIENCE – ACADEMIC YEAR (42.5 CREDITS)	
	7.1 INTRODUCTION	20
	7.2 COURSE COMPLETION	20
	7.3 COMPETENCIES	20
	7.4 COURSE REQUIREMENTS	
	7.5 SAMPLE SCHEDULE	21
8.0	MASTER OF SCIENCE IN COMPUTUATIONAL BIOLOGY & QUANTITATIVE GENETICS	
	8.1 MASTER IN CBQG (80 CREDITS) INTRODUCTION	22
9.0	SM2 - MASTER OF SCIENCE (80 CREDITS – 2 YEARS)	
	9.1 INTRODUCTION	23
	9.2 COMPETENCIES	23
	9.3 THESIS TIMELINE	23
	9.4 THESIS REQUIREMENTS AND GUIDELINES	24
	9.5 PRIOR WORK AS PART OF THE THESIS	24
	9.6 COURSE REQUIREMENTS	25
	9.7 SAMPLE SCHEDULE	26
10.0	Ph.D. PHS – Doctor of Philosophy Population Health Sciences	
	10.1 INTRODUCTION	27
	10.2 PHS & EPI REQUIRED COURSES	28
	10.3 WRITTEN EXAM	29
	10.4 PROCEDURE FOR THE EXAMINATION	29
	10.5 DATA COLLECTION & OTHER REQUIREMENTS	30-31
11.0	INTERDISCIPLINARY CONCENTRATIONS & COURSE LISTINGS	
	11.1 INTERDISCIPLINARY CONCENTRATIONS	32
	11.2 DEPARTMENT COURSE LISTINGS	33-35
12.0	STUDENT RESOURCES AND INFORMAITON	
	12.1 STUDENT GROUPS	36
	12.2 STUDENT & DEPARTMENTAL GROUPS	
13.0	DEPARTMENT RESOURCES	37

14.0 ALUMNI SERVICES 38

1.1 Welcome to the Department of Epidemiology!

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 School of Public Health is global in scope, so too is our research program. We are committed to the enhancement of quality of health not only in our own country, but internationally.

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

1.2 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 2016-2017* Epidemiology students (PhD, ScD, SM1, SM2, and MPH) are responsible for general knowledge of, and adherence to, the policies and requirements described in the Chan School Student Handbook and the Epi Department Student Handbook. Doctor of Philosophy in Population Health Sciences students (Epidemiology area of specialization) are responsible for the general knowledge of, and adherence to, the policies and requirement in the Population Health Sciences Handbook and Graduate School of Arts and Sciences Handbook.

Where school-wide and departmental policies overlap, Chan School Student Handbook or Graduate School of Arts and Sciences Handbook (for PhD) takes precedence. The Department of Epidemiology reserves the right to update the information published in the Handbook as necessary.

All information correct at time of publication ©2016

2.1 Department of Epidemiology Administrative Organization

Name	Title	Contact Information
Albert Hofman, MD, PhD	Department Chair, Stephan B. Kay	617-432-6477 ahofman@hsph.harvard.edu
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Deborah Blacker, ScD, MD	Deputy Chair, Professor of Epidemiology	Blacker@psych.mgh.harvard.edu
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Laura Severse	Director of Finance	
Sean Mayne	Assistant Director of Finance	
Jamie Fu, MBA	Assistant Director of Finance	
Alan Berkeley	Senior Grants Manager	
Jeff Gorman	Grants Manager	
Radford Welch	Training Grant Manager	
Gray Maganga	Grants Manager	
Mike Curtis	Grants Manager	

^{*}All documents requiring the Chair's signature should be submitted to Ellen Furxhi

2.2 Associated Departments

Department	Name	Title	Contact Information
Career Advancement	Suprawee	Assistant Director/Career	617-432-1034
	Tepsuporn	Coach	Stepsupo@hsph.harvard.edu
Disability Services	Amy	Associate Director	617-432-1036
	Wooldridge		studentaffairs@hsph.harvard.edu
Graduate School of Arts	N/A	N/A	617-495-5315
and Sciences Office of			admiss@fas.harvard.edu
<u>Admissions</u>			
Harvard T. H. Chan School	N/A	N/A	617-432-1031
Office of Admissions			admissions@hsph.harvard.edu
Office of Student Affairs	Amy	Associate Director	617-432-1036
	Wooldridge		studentaffairs@hsph.harvard.edu
Office of Financial Aid	Ada Horne	Financial Aid Coordinator	617-432-1867
			<u>OSFS@hsph.harvard.edu</u>
Longwood Area Police	Officers	Officers	617-432-1212
			90 Smith Street
Office for Alumni Affairs	Amelia Clouse	Coordinator for Alumni	617-432-8429
		Affairs	aclouse@hsph.harvard.edu
Office of Diversity and	Zennon Black	Program Manager	617-432-5086
<u>Inclusion</u>			zblack@hsph.harvard.edu
Office of Education	N/A	N/A	617-432-0090
Ombuds Office	Melissa	Ombudsperson	617-432-4041
	Brodrick		Melissa Brodrick@hms.harvard.edu
Registrar's Office	Isabelle	Special Programs Manager	617-432-1032
	Bourdonne	(Master of Science)	Registrar@hsph.harvard.edu
Walking Escort Service	N/A	N/A	617-432-1040

2.3 Important Academic Dates 2016-2017

Chan School Academic Dates

SM1 Summer Check- In/Orientation	Wednesday July 6, 2016
Summer Session	Thursday July 7, 2016 – Friday August 19, 2016
Summer 1	Thursday July 7, 2016 – Friday July 29, 2016
Summer 2	Monday August 1, 2016 – Friday August 19, 2016
Fall Pre-registration begins	Wednesday August 17, 2016 9:00am
Orientation	Monday August 22, 2016 – Friday August 26, 2016
Fall Session	Monday August 29, 2016 – Friday December 16, 2016
Fall 1	Monday August 29, 2016 – Friday October, 21, 2016
Fall 2	Monday October 24, 2016 – Friday December 16, 2016
Spring Pre- registration begins	Thursday December 8, 2016 9:00am
Winter Session	Tuesday January 3, 2017 – Friday January 20, 2017
Spring Session	Monday January 23, 2017 – Friday May 12, 2017
Spring 1	Monday January 23, 2017 – Friday March 10, 2017
Spring 2	Monday March 20, 2017 – Friday May 12, 2017

The most current and complete academic calendar can be found <u>here</u>.

Chan School Add/Drop/Withdrawal Dates

Summer 1	Add/Drop/Change: Monday July 11, 2016 5:00pm Withdrawal: Monday July 18, 2016 5:00pm
Summer 2	Add/Drop/Change: Wednesday August 3, 2016 5:00pm Withdrawal: Wednesday August 10, 2016 5:00pm
Fall 1	Add/Drop/Change: Friday September 9, 2016 5:00pm Withdrawal: Friday September 23, 2016 5:00pm
Fall 2	Add/Drop/Change: Friday October 28, 2016 5:00pm Withdrawal: Friday November 18, 2016 5:00pm
Spring 1	Add/Drop/Change: Friday February 3, 2017 5:00pm Withdrawal: Friday February 17, 2017 5:00pm
Spring 2	Add/Drop/Change: Friday March 24, 2017 5:00pm Withdrawal: Friday April 7, 2017 5:00pm

Chan School Degree Candidacy Dates

November 2016	Degree Application Due: July 26, 2016 Dissertation Due: September 23, 2016
March 2017	Degree Application Due: January 6, 2017 Dissertation Due: January 13, 2017
May 2017	Degree Application Due: Friday February 3, 2017 Dissertation Due: April 21, 2017

More information regarding billing can be found here.

Holidays & Events

July 4 (Monday)	Independence Day
September 5 (Monday)	Labor Day
October 10 (Monday)	Columbus Day
November 11 (Friday)	Veteran's Day
November 23 – 25	Thanksgiving Recess
December 19 - 30	Winter Recess
January 2 (Monday)	New Year's <i>observed</i>
January 16 (Monday)	Martin Luther King, Jr. Day
February 20 (Monday)	President's Day
May 25 (Thursday)	Commencement
May 29 (Monday)	Memorial Day

Subscribe to the Harvard Chan School's full Academic Calendar.

3.1 DEGREES

The Department of Epidemiology offers 6 degree granting programs:

- 42.5 Credit Master of Science Summer-only
- 45 Credit Master of Public Health in Epidemiology
- 42.5 Credit Master of Science Academic Year
- 80 Credit Master of Science in Computational Biology and Quantitative Genetics
- 80 Credit Master of Science (2 year program)
- Doctor of Science (enrolled last cohort 2015-2016)
- Doctor of Philosophy in Population Health Sciences

3.2 AREAS OF INTEREST

Students in the SM or Ph.D. program in Epidemiology can select any of the twelve Areas of Research Interest. Students are then required to complete elective courses and conduct thesis or dissertation research in this area.

- 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 AREAS OF INTEREST RELATED COURSES

Some areas of interest have a list of suggested and/or required courses that students are recommended/required to take. Please review your appropriate course list and contact the Assistant Director of Graduate Studies with any questions.

- Cancer 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

3.4 ADMISSIONS POLICIES AND REQUIREMENTS

Applicants apply to the Schools of Public Health Application Service (SOPHAS). The Department of Epidemiology adheres to all Office of Admissions deadlines and policies, and review of applications is conducted by the department. Admittance to a master's or PhD program does not guarantee transfer or acceptance to another program within the school or department, and students must meet admission requirements. *More information about the Admissions process for prospective students can be found here.*

Admission to the Master of Science or Master of Public Health Programs

Current Doctoral Students

Epidemiology doctoral students have the option to complete requirements for the Master of Science or Master of Public Health degree (while pursuing a Doctor of Science degree). Students must submit a completed <u>General Petition</u> to the Registrar's Office to apply. Once approved, students also submit an <u>Application Form</u>, two new letters of recommendation, and a statement of purpose. Students will be notified of the department decision by the Office of Admissions.

Admission to the Ph.D. in Population Health Sciences

Current Masters Students

Epidemiology master's candidates are welcome to apply to the Ph.D. program during the normal admissions cycle. Students are required to submit an electronic application through the Graduate School of Arts and Sciences (GSAS) during the next admissions season and will be notified of the decision from the GSAS Office of Admissions.

Two-year master of science students must complete all graduation requirements on schedule, even if they will be matriculating to the Ph.D. program at the end of the second year.

Admission to the Master or Doctor of Science

Students adding or changing department

Students from other departments at the Chan School of Public Health may apply for dual major or apply to change department affiliation to Epidemiology. In either case, students must submit an abbreviated <u>Application Form</u>, two new letters of recommendation, and a statement of purpose. All applications will be reviewed during the regular admissions cycle and students are notified of the department decision by the Office of Admissions.

3.5 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 ScD, Ph.D., SM2 (80 credits), and SM Summer Only degrees the advisor serves as research mentor on the thesis requirement. The advisor and the advisee must meet at least twice during the academic year (timelines will vary depending on the program) 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 registration record is required and indicates that the course in which the student has enrolled are 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 his/her current and proposed new advisor prior to completing and submitting the Change of Advisor Request Form to the Assistant Director of Graduate Studies.

3.6 COURSE WAIVERS

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

Epidemiology students wishing to waive EPI 201 or BST 201 must discuss their request with the relevant instructor and submit a Waiver of Core Course Form to the Registrar's Office. Students must present a transcript and a copy of the course description to the Course Instructor to verify appropriate coursework. If the request to waive a core course is approved, the student will not be required to enroll in the core course and a copy of the approval must be provided to the Assistant Director of Graduate Studies. 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. Please contact the Assistant Director of Graduate Studies for more information.

EPI Department Required Courses:

Students wishing to request a waiver for other departmental required courses must submit the <u>EPI Requirement Waiver Form</u>. 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.

Physicians are not required to take the physiology or pathophysiology courses (EH 205 & EH 208). Such students should consult with their advisor at the start of their program and notify the Assistant Director of Graduate Studies. Other students with relevant coursework completed (before entering the program) in these areas may petition to waive this requirement.

3.7 INDEPENDENT STUDY/TUTORIAL (EPI 300)

Registration for an independent study/tutorial 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.

SM2 students may register for up to 5 credits of EPI 300 for thesis research and writing, during the term in which the thesis is submitted. Students considering taking more than 5 credits of EPI 300 or taking EPI 300 for written exam preparation should consult with his/her advisor and the Assistant Director of Graduate Studies to ensure degree requirements are being met.

3.8 TEACHING CREDITS (EPI 311)

Students who serve as a Teaching Assistant can contact the Assistant Director of Graduate Studies regarding EPI 311 Teaching Credit registration.

3.9 WINTER SESSION

All full-time students are expected to participate in Winter Session activities, 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 that each full-time student formulate a plan (or request an exemption) for the Winter Session. All full-time students must complete the Winter Session contract, which must be approved and signed by the advisor. The original signed copy of the form must be submitted by December 1 to the Assistant Director of Graduate Studies. Acceptable activities might include courses, tutorials/independent study projects (with faculty members who are willing to take on this role), travel tutorials, field placements, practica, community service projects, courses organized and taught by students, and skill-building workshops sponsored by administrative departments of the school. Approved activities need not be located on campus.

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 on a yearly basis for new and returning students)
- Doctoral training grant stipend/tuition awards (NIH funding through 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

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 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
- Neuro-Psychiatric Epidemiology
- Maternal and Child Health/Children, Youth and Families Center of Excellence (managed by MCH)

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. For more information on fellowships available through the Department of Epidemiology visit the <u>Funding Page</u>.

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; students are responsible for meeting this requirement. Trainee of NIH funded training grants are required to successfully complete a Responsibility Conduct of Research offered by the Harvard Chan School, during their first full year on the grant.

4.3 TEACHING ASSISANT 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 terms in 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.

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 masters students' experience while simultaneously maintaining a vital flexibility in the program. If a student or faculty member believes these guidelines are not met, the Department Chair should be consulted.

The degree program equips physicians or professionals with master's – level background in related disciplines with necessary quantitative skills. This program can be completed over 3 summer semesters. 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 course options. A Thesis is required for this degree and a thesis proposal and local mentor is required for application. The sequence of courses taken by a student to satisfy this degree's requirement depends on whether the student begins training with 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 in order to develop hypotheses of possible risk factors for a disease.
- 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 (20 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.

		Started Program with	
Courses	Program in Clinical Effectiveness	Summer Session in Public Health Studies	Certificate Program in Clinical Research Methods
Intro Epidemiology	EPI208	EPI500 and EPI202	ID207
Intro Biostatistics	BIO206 and (BIO207 or BIO208)	BIO202 and BIO203	
Advanced Epidemiology: Analysis		EPI236	
Advanced Epidemiology: Study Design		EPI210	
Other Required Methods Courses		hod course offered in winter period	5.0 credits from method course offered in the summer or winter period

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 allowed to take courses at the Harvard Chan School during the Fall or Spring semesters except for select online options. Fall online courses include:

- Applied Regression for Clinical Research (BIO213). This is a 5-credit online version of an oncampus course taught by Dr. John Orav. Discussions are ongoing to determine if the online version of this course will be offered in the fall semester. A final decision should be made by the summer. Anyone interesting in this course should check with Dr. Orav about details.
- Systematic Review and Meta-Analysis
- Design and Conduct of Trials in Preventive Medicine
- Public-Use Data Bases for Epidemiology and Health Services Research

The last three courses are part of the MPH in Epidemiology (MPH-EPI) Program. Students in that program have priority for enrollment, but these online courses are also options for summer-only degree students if space permits.

Thesis Credits – EPI 315 (5–12.5 credits): All students in the Master of Science Summer Program are required to complete a supervised research project (Master's Thesis) prior to 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 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 (Dr. Fran Cook). 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). Student can enroll for 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 at most 12.5 credits. The student determines the number of EPI 315 credits in order 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 not take any course for a Pass/Fail grade as it might result in obtaining less than 30.0 ordinal-graded credits by mistake.

5.4 EPI 315 REGISTRATION

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

5.5 COURSES

Starting Program with	Program in Clinical Effectiveness	Summer Session in Public Health Studies
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 in order to graduate.

6.0 MASTER OF PUBLIC HEALTH IN EPIDEMIOLOGY (42.5 CREDITS)

6.1 INTRODUCTION

The Master of Public Health in Epidemiology (MPH-EPI) Program combines the 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 allows 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
- In the Field

On Campus Training provides traditional face-to-face learning from Harvard faculty during three brief periods. Structured exercises 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 required core breadth of training for the Masters of Public Health Program at this school. Limited Elective Courses offered during the second year of this program provide the students additional training in targeted areas of interest. Students initiate 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 of this program.

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.

6.2 COMPETENCIES

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

- Demonstrate the basic skills in the core fields of Public Health that pertain to the school's Master of Public Health Program.
- Develop a comprehensive knowledge about the role of Epidemiology as a core field of Public Health, interpret descriptive epidemiologic results, evaluate and design valid and efficient protocols to investigate Public Health and clinical problems that pertain to the department's 42.5 Master of Science in Epidemiology Program.

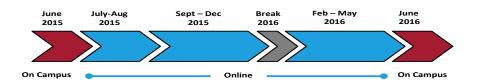
6.0 MASTER OF PUBLIC HEALTH IN EPIDEMIOLOGY (42.5 CREDITS)

6.3 SCHEDULE

Students in the MPH-EPI Program initiate their training during an intensive three-week onsite period in June of Year 1, when they take an integrated course introducing the basics of Epidemiology and Biostatistics. This course is extended with an online component during the remainder of the summer. During the fall semester students continue their training in epidemiologic methods with a course on analytic methods. In the spring semester students complete their training in core epidemiologic methods by taking half-semester courses in study design and methods used by epidemiologists to control confounding.

Harvard MPH Degree in Epidemiology

First Year Experience

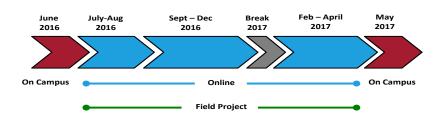


The second year of this program (Year 2) begins with a second intensive three-week onsite training program in June addressing the remaining required core competencies of Public Health. While on campus in June students take an integrated course addressing the other core areas of Public Health and also take a course on the ethical, legal, and regulatory aspects of human research. During the July and August students take on online course on economics and global health policy. Online Elective Courses follow during the subsequent fall and spring semesters.

The program ends with a two-week onsite program in May when each student presents the results of his/her completed MPH Practicum to faculty and fellow students in time for the May graduation date.

Harvard MPH Degree in Epidemiology

Second Year Experience



6.0 MASTER OF PUBLIC HEALTH IN EPIDEMIOLOGY (42.5 CREDITS)

6.4 SAMPLE SCHEDULE

Year 1	Course	Credits	Location
June	Introduction to Epidemiology and Biostatistics (ID207)	7.5	Onsite
Summer	Introduction to Epidemiology and Biostatistics (ID207) (continued)	2.5	Online
Fall	Analytic Methods for Epidemiology (EPI522)	5.0	Online
Spring	Study Design for Epidemiology Methods for Controlling Confounding	2.5 2.5	Online Online
Year 2	Course	Credits	Location
June	Public Health Core Ethical, Legal, and Regulatory Aspects of Human research	5.0 2.5	Onsite Onsite
Summer	Economics and Global Health Policy	2.5	Online
Fall	Elective Course Elective Course	2.5 2.5	Online Online
Spring	Elective Course Elective Course	2.5 2.5	Online Online
May 2017	MPH Practicum Presentation	5.0	Onsite

6.5 MPH-EPI PRACTICUM

Each student is required to complete a supervised MPH-EPI Practicum on a topic selected by the student. An advantage of a partially online MPH Program is the potential for students to initiate and complete a student-identified practicum at their home site, often under the supervision of a local mentor during a two-year period. However, each practicum will be supervised by Harvard faculty members using group mentoring activities during Year1 and individual mentoring during Year2.

Members of the MPH-EPI Practicum Committee (MPH-EPI-PC) meet individually with students during the first oncampus session in June and work as group mentors during Year1. Students meet with the MPH-EPI-PC in online sessions during the first year to develop a protocol for a MPH Practicum. Once developed, the MPH-EPI-PC identifies the Harvard Practicum Supervisor from the faculty in the Department of Epidemiology to mentor the student's MPH-EPI Practicum during Year2.

6.6 MPH-EPI PRACTICUM SCHEDULE

Year 1	May (optional)	Submit one-paragraph(s) description of ideas for potential topic(s) for a MPH Practicum
	June	ID207 small-group faculty-lead breakout session to discuss potential topics for a MPH Practicum
		On-campus meeting with member(s) of MPH-EPI-PC to discuss potential topics for a MPH Practicum and possible mentors for the Practicum
	December	Complete online survey about ideas for potential topics for a MPH Practicum
	January	Online meeting with member of MPH-EPI-PC to discuss potential topics for a MPH Practicum and possible mentors for the Practicum. Provide Progress Report if already working with a mentor on a MPH Practicum
	April/May	Online meeting with member(s) of MPH-EPI-PC to discuss potential topics for a MPH Practicum and possible mentors for the Practicum. Provide Progress Report if already working with a mentor on a MPH Practicum
		Submit one-page proposal describing MPH Practicum and list of suggested mentor(s) (if not done previously)
Year 2	June	On-campus meeting with member(s) of MPH-EPI-PC to discuss status of MPH Practicum
	Eall /Winton/Chring	On-campus meeting with mentor of MPH Practicum
	Fall/Winter/Spring	Online meetings with mentor Provide Progress Report on schedule determined by MPH-EPI-PC
	January	Online meeting with member of MPH-EPI-PC to discuss status of MPH Practicum
	May	Present PowerPoint presentation of results of MPH Practicum

Please refer to the MPH-EPI Handbook

7.1 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 masters students' experience while simultaneously maintaining a vital flexibility in the program. If a student or faculty member believes these guidelines are not met, the department chair should be consulted.

7.2 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 though not recommended. At least one course must be taken in the Fall and Spring semesters. Students are *not* required to write a thesis.

7.3 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 in order to develop hypotheses of possible risk factors for a disease.
- 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.

7.4 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)	
EPI 202 Elements of Epidemiologic Research (2.5) EPI 203 Study Design in Epidemiologic Research (2.5)	DINAL grade
EPI 203 Study Design in Epidemiologic Research (2.5)	
EPI 204 Analysis of Case-Control and Cohort Studies (2.5)	2.5)
	es (2.5)
BST 201 Introduction to Statistical Methods (5)	
Analysis of Rates and Proportions (5) or Applied Regression for Clinical Research (5)	5)
Credit Requirements	
42.5 Total Credits Earned	
30/42.5 Ordinal Credits	
10 Ordinal Credits in Epidemiology	
10 Ordinal Credits in Biostatics	

^{*} 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.

7.0 SM1 - MASTER OF SCIENCE – ACADEMIC YEAR (42.5 CREDITS)

7.5 SAMPLE SCHEDULE

Academic Year, 42.5 Credit Master of Science Sample Schedule

	Fall Semester	
EPI 201	Introduction to Epidemiology	Fall I
EPI 202	Elements of Epidemiologic Research	Fall II
BST 201	Introduction to Statistical Methods	Fall
Electives	10-12.5 Credits	
	Spring Semester	
EPI 204	Analysis of Case-Control and Cohort Studies	Spring II
EPI 203	Study Design in Epidemiologic Research	Spring II
BST 210	Applied Regression Analysis	Spring
Electives	10-12.5 Credits	Spring

^{**} Full-Time students in the Academic Year, 42.5 Credit Master of Science Program, must complete all required courses in **one academic year**.

8.0 MASTER OF SCIENCE IN COMPUTUATIONAL BIOLOGY & OUANTITATIVE GENETICS

8.1 MASTER IN CBQG (80 CREDITS) 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 within 18-24 months, requires a minimum of 60 credits of course work and a supervised 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 <u>CBQG Student</u> Handbook.

9.1 INTRODUCTION

Detailed below are the Epidemiology Department specific requirements for the 80 credit Master of Science degree. 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 masters students' experience while simultaneously maintaining a vital flexibility in the program. If a student or faculty member believes these guidelines are not met, the department chair should be consulted.

In addition to epidemiologic methods and biostatistics requirements, students may choose from a wide variety of substantive epidemiology courses as well as electives offered in other departments at the Harvard Chan School and other schools at Harvard.

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 in order to develop hypotheses of possible risk factors for a disease.
- 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 TIMELINE

Year One

Fall -- Begin to consider the topic for master's thesis and consult with advisor.

Spring -- Choose designated reader.

Year Two

Fall -- Master's thesis topic formalized and submitted to the advisor for approval and then to the Department of Epidemiology Chair for approval. The submission to the Chair need only 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 advisor email your proposal to the Assistant Director of Graduate Studies and cc your advisor. It must be submitted before the end of the Fall 1 term. The Chair will review all submissions and 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 reader by the beginning of the Spring 2 term in order to allow time for review and revisions. This is only meant to be a guideline. The student and reader may develop an alternate timeline if that seems appropriate. If the advisor is not the reader, the reader's comments on the thesis must be submitted to the advisor. The thesis and approval form must be submitted to the Assistant Director of Graduate Studies, electronically or in hard copy, by the final day of Spring semester classes.

9.4 THESIS REQUIREMENTS AND GUIDELINES

In addition to the course requirements, candidates in the 80 credit SM 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 grant 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 need not be 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 the fifth academic quarter of study. The Chair of the Department must also accept the plan. A timeline for submitting drafts and revisions of the thesis should be agreed upon by the advisor, or another Harvard faculty member whom the student and the advisor agree to designate as reader. The finished thesis must be approved by the advisor or reader and submitted to the Assistant Director of Graduate Studies, along with the Thesis Submission Form, by the final day of the Spring semester.

A good starting point for the thesis may be a term paper. Careful revision according to the original instructor's comments and expansion in consultation with that instructor or the advisor can lead to the finished product. There are no standard format requirements for the thesis.

Students may wish to dedicate an Independent Study (EPI300) to this effort, but are not required to do so. 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.

Master's candidates who apply and matriculate into the EPI PhD program may, in some instances, use the master's thesis as the basis for one of their doctoral thesis papers.

9.5 PRIOR WORK AS PART OF THE THESIS

In select instances work done prior to the written examination, or even before formal entry to the program, can be used as part of the doctoral thesis. To be eligible for consideration as part of the doctoral thesis the prior work must have been done under the supervision of an HSPH Epidemiology Department faculty member. In addition, the student's doctoral thesis committee must deem the prior work appropriate and unanimously approve its inclusion.

9.6 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)	
EPI 289	Causal Inference (2.5)	
EPI 507	Genetic Epidemiology (2.5)	
BST 201	Introduction to Statistical Methods (5)	
BST 210 or BST 213	Applied Regression Analysis (5) or 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)	
Credit Requirements		
80	Total Credits Earned	
60/80	Ordinal Credits	
30	Epidemiology Credits	
25/30	Ordinal Epidemiology Credits	
15	Ordinal Biostatistics Credits	

9.7 SAMPLE SCHEDULE

Year One Fall Semester			
EPI 201	Introduction to Epidemiology (2.5)	Fall I	
EPI 202	Elements of Epidemiologic Research (2.5)	Fall II	
BST 201	Introduction to Statistical Research (5)	Fall	
Electives	10 Credits		
Spring Semester			
EPI 204	Analysis of Case-Control and Cohort Studies (2.5)	Spring I	
EPI 289	Causal Inference (2.5)	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		
EPI 507	Genetic Epidemiology (2.5)	Fall II	
Electives	17.5 credits	Fall	
THESIS	Work on thesis	Fall	
	Spring Semester		
Electives	20 credits	Spring	
THESISEPI 300	Work on thesis	Spring I	
THESIS	Submit to Advisor or Reader at the beginning of Spring I for review/edits	Spring I	
THESIS	Submit thesis and approval form to Assistant Director of Graduate Studies	Spring II	

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

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.

"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.

PhD students in Population Health Sciences at Harvard have the benefit of affiliation with two vibrant academic communities. As PhD students at Harvard University, students are formally enrolled in the Graduate School of Arts and Sciences (GSAS) and become part of GSAS's expansive community of scholars. At the same time, students maintain an academic affiliation with the Harvard T.H. Chan School of Public Health, home to the five academic departments whose faculty provides the research, teaching, and advising expertise that form the foundation of the Fields of Study in this PhD program: **Epidemiology, Environmental Health, Global Health and Population, Nutrition,** and **Social and Behavioral Sciences**.

Fields of Study are affiliated with the departments participating in this program. Each Field of Study includes Areas of Specialization. Choosing a Field of Study and one Area of Specialization within that Field of Study signals the beginning of a journey towards developing competence in a targeted area. Field of Study-specific training is delivered through targeted courses and research assistantships.

Students are also encouraged to explore interest in another Field of Study during the program by working with faculty across fields in order to develop deeper knowledge and have a more collaborative and complete experience.

The specific course requirements for the completion of the PhD in Population Health Studies will vary according to the Field of Study and specialization chosen as a primary focus of graduate study.

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 PHS & EPI Required Courses

Course Number	Course Name	Timing	Number of Credits (GSAS)
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 credits
EPI 201	Introduction to Epidemiology	Fall One	2 credits
EPI 202	Elements of Epidemiological Research	Fall Two	2 credits
HPM 548	Responsible Conduct of	Fall Two	1 credit
(or approved equivalent)	Research		
FoS-Required Courses	Varies	Varies	Varies
PHS Wednesday Evening Seminar	PHS Wednesday Night Seminar	Full-Year	N/A

Field of Study- EPI Required Courses			
ALL EPI and BIOSTATS requirements listed below must be taken for an ORDINAL grade			
EPI 203	Study Design in Epidemiologic Research (2.5)		
EPI 204	Analysis of Case-Control and Cohort Studies (2.5)		
EPI 205	Practice of Epidemiology (2.5)		
EPI 207	Advanced Epidemiologic Methods (2.5)		
EPI 247	Epidemiologic Methods Development (2.5)		
EPI 289	Causal Inference (2.5)		
EPI 507	Genetic Epidemiology (2.5)		
BST 223 or BST 226	Applied Survival Analysis and Discrete Data Analysis (5) or Applied Longitudinal Analysis (5)		
EH 205	Human Physiology (5)		
EH 208	Pathophysiology of Human Disease (2.5)		
SBS 506	History, Politics and Public Health (2.5)		
	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)		

10.3 OVERVIEW

The written examination is divided into two portions. 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 following courses:

Courses to complete before attempting the Written Exam		
BST 201	EPI 204	
BST 210 or BST 213	EPI 207	
BST 223 or BST 226	EPI 247	
EPI 201 and EPI 202	EPI 289	
EPI 203	EPI 507	

The second session covers substantive knowledge of epidemiology. Candidates are required to answer 5 questions in topic areas based on the department's <u>twelve areas of interest</u>.

Substantive courses in the department related to the twelve areas of interest serve as the foundation for the content of the questions. Candidates are also encouraged to keep current with important recent developments in the topics they plan to select by regularly reading the major journals.

10.4 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 prior to spring break. Doctoral students from other departments must request to sit for the exam in writing. Some training grants may require students supported by that grant to answer the substantive questions in that area; students are responsible for meeting this requirement.

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

The written examination is graded blindly. Once the exams are graded, the decision of pass or fail of the written exam represents the consensus of the faculty, and may take into account the student's overall academic performance. The department endeavors to notify students in writing 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 awards a *conditional* pass on the written examination; in this case, additional coursework and/or further examination during the oral examination will be required.

Non-Epi doctoral students who take and pass the exam must still go through the official, internal application process. Their applications will be reviewed in January with SOPHAS applicants. There is no guarantee of being admitted to the Epidemiology Department based solely on passing the exam.

10.0 Ph.D. PHS - DATA COLLECTION & RECOMMNEDATIONS

10.5 DATA COLLECTION & OTHER RECOMMENDATIONS

<u>Data Collection</u>: All doctoral students must have adequate experience in data collection. The data collection requirement is part of the research or tutorial credits. This experience can be collecting the data for their own thesis or for another project, as agreed with the advisor. The goal is to provide a meaningful, practical learning experience (outside of class) but not to impose an undue burden. Examples of data collection projects that fulfill the requirement are:

- Collecting data for a new sub-study or a validation study
- Supervising data collection in an ongoing study
- Developing/documenting a new disease outcome in a cohort study or new exposure in a case-control study
- Conducting the laboratory component of a project
- Designing and distributing a questionnaire
- Linkage of datasets

The Winter Session might be utilized to engage in data collection. Students with previous primary data collection experience might be able to apply this experience towards fulfillment of the requirement (subject to approval of advisor or department chair). Any student with questions regarding whether or not his or her dissertation research fulfills these requirements should check with his or her advisor. A one page description of data collection activities undertaken, or to be undertaken, must be attached to the Oral Exam Scheduling form.

Additional Recommendations

<u>Paper Writing</u>: 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.

All of the usual authorship guidelines hold for students. Thus, if students are paid for work on a project or for 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 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.

<u>Grant Writing</u>: Students are strongly encouraged to gain experience in helping to write one or more grant proposals. Courses and seminars may be available for guidance and are posted on the website.

<u>Presentation Skills</u>: 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.

Oral Exam

Prior to taking the Oral Exam, students must have completed all course work required to meet school-wide requirements for 20 credits in the major field and 10 credits in each of two minor fields; these courses must be listed on their final program. However, students are not required to have completed all Epidemiology Department requirements, (e.g., they may take EPI 205 after their oral exam).

When submitting the final program, students will also provide the nominees for the oral examination committee. Typically, members of the examination committee must hold an HSPH faculty appointment in disciplines representing the major field(s) as well as the minor field(s).

The student's advisor may not serve on the oral examination committee. The advisor may be present during the examination, but may not speak during the examination, and has no vote. At the discretion of the examining committee, the advisor may be invited to participate in the discussion after the examination. Students must complete the oral examination no later than 9 months after passing the written examination. Exceptions will be considered only upon written petition to the department chair.

Oral Exam Thesis Proposal

Before the oral examination, the student distributes a thesis proposal to the committee. The format will vary depending on the student's level of progress at the time. Ordinarily, students should present plans for their principal thesis papers. It is not necessary to present preliminary data. The written thesis proposal should be a draft, or drafts of papers, or a detailed outline for the plans for papers, including background material that would become the introduction to one or more of the papers. The goal is not to produce a finished polished document, but rather a springboard towards advancing the thesis papers, and a starting point for the examination.

Oral Exam Committee

The Committee on Admissions and Degrees (CAD) appoints the chair of the oral exam committee at the time of the approval of the final program. Upon notification by the Registrar's office of your committee chair, you must submit an oral exam scheduling form and the attached Data Collection description to the Assistant Director of Graduate Studies for departmental approval. The scheduling form, along with your proposal, must be submitted to the Registrar's office at least 3 weeks prior to the examination date.

Epidemiology students cannot schedule their oral exam until they have passed the departmental written exam. Students can, however, submit their final program and nominate their orals committee if they have completed all of the necessary coursework for the final program.

Research Committee

Upon successful completion of the oral examination, students must nominate the research committee. The research committee may include members of the oral examination committee, but this is not required. The academic advisor serves on the research committee as chair. S/he must hold a primary or secondary appointment in the Epidemiology department. However, members of the research committee may include faculty members outside HSPH.

Doctoral Thesis

The doctoral thesis represents a contribution of knowledge through original scholarly research. Specific thesis requirements and procedures are outlined in detail in the PHS Handbook. Supplemental guidelines for doctoral candidates are provided below.

Once the Dissertation Scheduling form has been completed and submitted to the Registrar the student's defense will be advertised across the school and within the Epidemiology Department.

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 DEPARTMENT COURSE LISTINGS

Fall Courses Offered Every Year

Fall

EPI 205 Practice of Epidemiology (2.5 Credits)

EPI 315 Research: Clinical Epidemiology (5 - 12.5 Credits) ♦

Course Description Key

 ${}^{\underline{o}}$ ID Courses that may be used to fulfill Epi substantive credits

◆ Pass/Fail Grading Option Only

EPI 242 Practice and Culminating Experience for Clinical Effectiveness (1.25 Credits)

EPI 522 Analytical Methods for Epidemiology (5 Credits) - MPH & Summer only

EPI 526 Analytic Methods for Epidemiology (2.5 Credits) - MPH & Summer only

EPI 527 Design and Conduct of Trials in Preventive Medicine - MPH & Summer only

EPI 528 Systematic Review and Meta-Analysis - MPH & Summer only

ID 201 Core Principles of Biostatistics and Epidemiology for Public Health Practice (7.5 Credits)^o

ID 320 Practice and Culminating Experience for Clinical Effectiveness (2.5 – 7.5 Credits) – PCE summer only

ID 537 Obesity Epidemiology (2.5 Credits)^o

Fall 1

EPI 201 Introduction to Epidemiology: Methods I (2.5 Credits)

EPI 207 Advanced Epidemiologic Methods (2.5 Credits)

EPI 215 Advanced Topics in Case-Control and Cohort Studies (2.5 Credits)

EPI 217 Epidemiology of Adult Disorders (2.5 credits)

EPI 221 Pharmacoepidemiology (2.5 Credits)

EPI 249 Molecular Biology for Epidemiologists (2.5 Credits)

EPI 515 Measurement Error and Misclassification for Epidemiologists (1.25 Credits)

WGH 211 Women, Gender and Health: Introductory Perspectives (2.5 Credits)

ID 320 Practice and Culminating Experience for Clinical Effectiveness (2.5 – 7.5 Credits) – PCE summer only

Fall 2

- EPI 202 Epidemiologic Methods 2: Elements of Epidemiologic Research (2.5 Credits)
- EPI 219 Assessment Concepts and Methods in Psychiatric Epidemiology (2.5 Credits)
- EPI 223 Cardiovascular Epidemiology I (2.5 Credits)
- EPI 247 Epidemiologic Methods Development Past and Present (2.5 Credits)
- EPI 269 Epidemiological Research in Obstetrics and Gynecology (2.5 Credits)
- EPI 286 Advanced Pharmacoepidemiology (2.5 Credits)
- EPI 507 Genetic Epidemiology (2.5 Credits)
- EPI 519 Evolutionary Epidemiology of Infectious Disease (2.5 Credits)
- EPI 523 Investigating Outbreaks (1.25 Credits)

Fall Courses Offered in Even Years ('16-'17,'18-'19, etc...)

- EPI 257 Advanced Seminar in Cancer Epidemiology (2.5 Credits)
- ID 520 Advanced Topics in Nutrition and Cancer (1.25 Credits)^o
- EPI 521 Topics in Medical Device Comparative Effectiveness Research (2.5 Credits)

Fall Courses Offered in Odd Years ('15-'16, '17-'18, etc...)

- ID 510 Nutritional Epidemiology of Cancer (2.5 Credits)^o
- EPI 246 Applied Biomarkers in Cancer Epi (2.5 Credits)

Epi Related Fall Courses

- ID 221 Nutritional Epidemiology II Fall (2.5 Credits)^o
- ID 269 Respiratory Epidemiology Fall 2 (1.25 Credits)^o

Winter Session Courses

- EPI 209 Epidemiologic Methods for Patient Safety and Quality (1.25 Credits)
- EPI 227 Child Psych Epi (1.25 Credits)
- EPI 230 Religion and Public Health (1.25 Credit, EOY even)
- EPI 271 Propensity Score (1.25 Credit)
- EPI 288 Data Mining and Prediction (2.5 Credits)
- EPI 293 Analysis of Genetic Association Studies (2.5 Credits)
- EPI 502 Biology and Epidemiology of Antibiotic Resistance (2.5 Credits, EOY odd)
- EPI 508 Pathology for Epidemiologists (1.25 Credits, EOY even)
- EPI 510 Global Cancer Epidemiology (1.25 Credits)
- EPI 315 Research: Clinical Epidemiology (5 12.5 Credits) ♦
- ID 320 Practice and Culminating Experience for Clinical Effectiveness (2.5 7.5 Credits) PCE summer only

Spring Courses Offered Every Year

Spring

- EPI 233 Research Synth & Meta-Analysis (2.5 Credits)
- EPI 242 Seminar in Clinical Epidemiology (1.25 Credits)
- EPI 245 Cardiovascular Epidemiology II Reading the Literature (1.25 Credits) currently canceled
- ID 320 Practice and Culminating Experience for Clinical Effectiveness (2.5 7.5 Credits) PCE summer only

Spring 1

- EPI 213 Epidemiology of Cancer (2.5 Credits)
- EPI 235 Epi Methods in Health Services Research (2.5 Credits)
- EPI 289 Models for Causal Inference (2.5 Credits)
- EPI 511 Advanced Population & Med Genetics (2.5 Credits)
- EPI 517 Issues in Frailty (1.25 Credits)
- EPI 288 Data Mining and Prediction (2.5 Credits) MPH only
- ID 542 Methods for Mediation and Interaction (2.5 Credits)
- EPI 524 Confounding Control: A Component of Causal Inference (2.5 Credits) MPH & summer only
- EPI 501 Dynamics of Infectious Diseases (2.5 Credits)

Spring 2

- EPI 203 Study Design in Epi Research (2.5 Credits)
- EPI 204 Analysis Case-Cont Cohort Epi Data (2.5 Credits)
- EPI 224 Cancer Prevention Fall 2 (2.5 Credits) ◊
- EPI 231 Readings in Global Health (1.25 Credits)
- EPI 501 Dynamics of Infectious Diseases (2.5 Credits)
- EPI 231 Readings in Global Health (1.25 Credits)

Spring Courses Offered in Even Years ('14-'15, '16-'17, etc...)

- EPI 220 Psychiatric Diagnosis in Clinic and Community Populations (2.5 Credits)
- EPI 222 Genetic Epidemiology of Diabetes, Obesity, and Their Complications (2.5 Credits)
- EPI 240 Biomarkers in Epidemiology Research (2.5 Credits)
- EPI 254 The Epidemiology of Aging (1.25 Credits)
- EPI 255 Epidemiology of HIV, Part I: Etiology, Natural History & Transmission (2.5 Credits)
- EPI 256 Epidemiology of HIV, Part II: Therapeutic & Prevention Interventions (2.5 Credits)
- EPI 284 Epidemiology of Neurologic Diseases (2.5 Credits)

Spring Courses Offered in Odd Years ('15-'16, '17-'18, etc...)

- EPI 260 Mathematical Modeling of Infectious Diseases (2.5 Credits)
- EPI 270 Advanced Reprod. Epidemiology (1.5 Credits)
- EPI 518 Infections and Cancer (2.5 Credits)

Epi Related Spring Courses

ID 206 Scientific Writing in Nutrition and Epidemiology Spring (2.5 Credits)

ID 214 Nutritional Epidemiology Spring (2.5 Credits)^o

ID 215 Environmental and Occupational Epidemiology Spring (2.5 Credits)^o

ID 236 Social Epidemiology Spring 2 (2.5 Credits)^o

ID 271 Advanced Regression for Environmental Epidemiology Spring 1 (2.5 Credits)

WGH 207 Advanced Topics in Women, Gender and Health Spring 2 (1.25 Credits) ♦

NUT 214 Policies for Global Cardiovascular and Metabolic Health: Translating Knowledge into Action Spring 2 (2.5 Credits)

Summer Courses

Summer

EPI 208 Intro Clinical Epidemiology (5 Credits)

Summer 1

EPI 210 Study Design in Clinical Epidemiology (2.5 Credits)

EPI 236 Analytical Clinical Epi (5 Credits)

EPI 500 Fundamentals of Epidemiology (2.5 Credits)

EPI 505 Epi Methods for Global Health (2.5 Credits)

Summer 2

EPI 202 Epidemiologic Methods 2: Elements of Epidemiologic Research (2.5 Credits)

EPI 253 Effectiveness Research with Longitudinal Healthcare Databases (2.5 Credits)

Epi Related Summer Courses

ID 215 Environmental and Occupational Epidemiology (2.5 Credits) $^{\underline{o}}$

12.1 STUDENT GROUPS

Epidemiology Department Student Advisory Committee

This student committee was formed to serve as a liaison with the Chair of the Department and the Assistant Director of Graduate Studies. The goals of the committee are to provide feedback and to discuss relevant issues on behalf of the EPI student body. The committee consists of representatives from each degree program. Members of the committee, with the exception of SM1 students, will serve for a 2-year period.

Please feel free to bring any concerns that you would like addressed by the <u>Student Advisory Committee</u> to the Chair of the Department, the Assistant Director of Graduate Studies or any of the student representatives. Students interested in serving on the committee should submit their names to any current SAC member, the Epi Graduate Studies Coordinator or the Assistant Director of Graduate Studies.

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 development of the Epidemiology doctoral student community.

The Epidemiology Peer Mentor Buddy System

Each year new students to the two-year masters and doctoral 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 the Assistant Director of Graduate Studies for more information.

HSPH 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!

12.2 STUDENT & DEPARTMENTAL GROUPS

Green Team

The Department of Epidemiology is interested in energy conservation and ecological preservation. A small committee is coordinated each year and participates in events to raise money, as well as awareness. The general expectations would be coming to a monthly meeting (when possible) and volunteering occasionally for events (helping people compost, etc.) Students interested in joining the committee can contact <u>David Havelick</u>, Program Manager, Cancer Epidemiology, Harvard Chan School's Department of Epidemiology.

For a full listing of Student Organization, visit Office for Student Affairs-Student Organizations.

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 and 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 Eric DiGiovanni, Graduate Studies Coordinator and Communications Committee Chair.

Copying/Fax/Scanning

Copy, Fax and Scanning capability is 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 copying of articles and journal publications whether they are published on or off-campus.

Mailboxes and Communication

Epidemiology doctoral and 80 credit masters students who are here for two years or more are allocated mailboxes in the department. If we are removing the mailboxes then we should remove this statement.

Harvard Chan 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 rooms 906 and 911, is currently assigned to doctoral and post-doctoral students on a first come-first served basis. Doctoral students will only be considered after passing the departmental written exam. Desks usually become available when students graduate or find alternative arrangements.

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.

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 617.432.1328. Students may contact <u>Eric DiGiovanni</u> for more information. Before requesting space please visit <u>Bookit</u> to check availability.

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 is 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.

<u>The Harvard Chan Postdoctoral Association</u> 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 which 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 <u>Student Life Webpage</u> 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 <u>seminars and workshops</u>
- 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
- <u>Updating</u> your contact information to stay tuned on job and funding opportunities