

Handbook Epidemiology & Biostatistics PhD Program

School of Public Health The University of Memphis

Fall 2019

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I. History and mission of the School of Public Health

The University of Memphis received approval from the Tennessee Board of Regents to establish a Master of Public Health (MPH) program in August, 2006 and accepted its first students in the Fall of 2007. Subsequently, the Tennessee Higher Education Commission (THEC) approved the establishment of a School of Public Health (SPH) at The University of Memphis in November, 2007. The SPH became an independent entity of The University of Memphis in July, 2009. In addition to the MPH program, the SPH offers a Master of Health Administration degree and three PhD degrees (Social and Behavioral Sciences; Epidemiology; Health System and Policy). The SPH also offers a Certificate in Population Health, a Certificate in Health Analytics, and two dual degrees (JD/MPH; MSW/MPH). The School of Public Health relocated to newly-renovated Robison Hall (3825 Desoto Drive) in October, 2011. We received our accreditation from CEPH (Council on Education for Public Health) in June 2015.

The University of Memphis, School of Public Health is dedicated to excellence in education, research, and outreach to improve public health and promote health equity by generating knowledge and translating research discoveries in our community, our state, and throughout the world.

We aspire to:

- 1. Train the next generation of students in population health by providing the highest quality education and practice opportunities in theories, approaches, methods, and other substantive issues pertinent to public health.
- 2. Create an environment conducive to interdisciplinary public health initiatives, with special emphasis on vulnerable populations who suffer disproportionately from illness and disability.
- 3. Stimulate collaboration with the community to develop effective partnerships in combating the health challenges in our communities, city, state, and region.
- 4. Prepare future leaders in public health by supporting interdisciplinary research focused on health equity to develop behavioral, community, structural, and health services interventions that address disparities.
- 5. Inform public policy, disseminate health information, and increase awareness of public health concerns through disease surveillance, needs assessments, and program evaluation.

II. Admissions Policies, Procedures and General Expectations

A. PhD in Epidemiology and Biostatistics Admission Requirements

A master's degree is required for admission. Applicants must show potential for further study by having maintained a GPA of at least a 3.0 average in their master's-level coursework. The Graduate Record Examination (GRE) completed within the past five years is required. Competitive scores on the GRE are considered in the admissions decision. Applicants already holding a doctoral degree or its professional equivalent may be exempted from the GRE requirement. Other professional school standardized test scores (MCAT, DAT, GMAT, or LSAT,) may be substituted for the GRE by applicants who are working toward or who have already earned post-baccalaureate degrees. Test scores must be sent directly to

Graduate Admissions by the testing agency. The University of Memphis institution code number for reporting ETS scores is R-1459.

All applicants who will be attending the University on a visa and who are not native speakers of English and are not graduates of the University of Memphis must supply a minimum score of 96 (80%) on the computer-based Test of English as a Foreign Language (TOEFL iBT), or an equivalent score on the paper-based test (TOEFL PBT).

Letters of recommendation from three individuals familiar with the applicant's academic background or experience in public health related issues, specifying in detail the applicant's capabilities for graduate study and for future performance as a public health scholar (Epidemiology concentration) or Biostatistician (Biostatistics concentration), are required. Applicants must also submit a personal statement of approximately 750 to 1000 words indicating his/her present interests and career goals, including how the PhD in Epidemiology/Biostatistics concentration will prepare the candidate to achieve their career goals.

Materials submitted will be reviewed by the faculty admissions committee. Admissions decisions are made on the overall quality of the applicant's scholarship and academic ability (based on GPAs, GRE scores, undergraduate and graduate coursework completed, research conducted, and recommendations) as well as the applicant's "fit" for the program in terms of research interests and career goals.

B. Transfer Credits and Credit by Exam

Transfer credits

Previously earned credits not counted toward any degree may be considered for transfer by the student's advisory committee in accordance with the Graduate School policy. According to Graduate School regulations, up to 50% of coursework may be transferred from other programs if course work was earned at an institution accredited at the graduate level. The maximum amount of combined hours of transfer credit, credit-by-examination, course validation and experiential learning that can be used to fulfill degree requirements is two-thirds the number of hours required for the degree. The content of a degree program and/or be comparable to those offered at the U of M; and must not have been completed more than 10 years before anticipated date of graduation. An official transcript must be on file at the U of M at the time of this request. Transfer grades will not be computed in the U of M cumulative GPA.

In the case of PhD students, if a student has earned an MPH previously, up to 15 credit hours of coursework may be transferred from their MPH to their PhD in accordance with the Graduate School policies outlined above.

The necessary forms for both the masters and doctoral students are available in the "Graduation Forms" section of the Graduate School website: <u>Graduate School Forms</u>. Upon completion of this form, return to the Graduate School (AD 215) with the appropriate signature for processing.

*These forms must be completed within the first two semesters of the student beginning at U of M.

Credit by exam

In cases where the student has knowledge, but has not taken the appropriate course, the academic units, with approval from the Vice Provost for Graduate Programs or designee, may offer graduate courses for credit by examination. Total credit-by-examination applied to a student's degree program may not exceed nine (9) semester hours. Students may submit their request for Credit by Exam here.

III. Academic Progress for PhD in Epidemiology and Biostatistics

A. Competencies

The School of Public Health at The University of Memphis offers a PhD degree in Epidemiology and Biostatistics with two concentrations, Epidemiology or Biostatistics, the highest academic degree for individuals planning to pursue scholarly careers in this discipline. This program is designed for those who intend to teach and conduct original research utilizing rigorous scientific theories and epidemiology or biostatistics methods, as well as be active in advocating and promoting health policies and intervention programs to improve the general health of societies.

Competencies in the concentration of Epidemiology:

- Analyze and critically apply professional and ethical standards of public health.
- 2. Critically evaluate epidemiologic study designs, appreciating the potential roles of bias, confounding, and random error.
- 3. Design a valid epidemiologic study that addresses an important public health problem.
- 4. Conduct data analysis using statistical methods appropriate for study design.
- 5. Develop expertise in an area of independent research and complete a rigorous dissertation.

Competencies in the concentration of Biostatistics:

- 1. Recognize philosophy and professional and ethical standards of public health.
- 2. Critically analyze published literature, evaluating the appropriateness of biostatistical methods and the strength and limitations of the epidemiologic design and methodology.
- 3. Demonstrate the ability to derive theoretical properties of statistical methods.
- 4. Design and conduct data analyses using advanced statistical methods.
- 5. Develop expertise in an area of independent research and write a rigorous grant proposal.

B. Curriculum

Curriculum for the concentration in Epidemiology:

*The curriculum below was the requirements for students admitted before 2017. Students admitted before 2017 may choose to opt in to the new 54 credit curriculum provided that they are not so far along that they are able to meet the new course requirements.

Students admitted before 2017:

To qualify for graduation, students need to complete a minimum of 54 semester hours of graduate course work beyond the master's degree plus 9 hours of PUBH 9000 (Doctoral Dissertation), for a minimum of 63 graduate credit hours. The distribution of those 63 credits is below:

| Epidemiology Research Methods Core | 12 |
|------------------------------------|----|
| Epidemiology Advanced Core | 9 |
| Epidemiology Subject Matter Core | 9 |
| Biostatistics Core | 9 |
| Doctoral Seminar | 6 |
| Dissertation | 9 |
| Electives | 9 |

Additionally, all doctoral students are required to fulfill the following pre-requisites (6 credit hours) or document equivalent coursework. These two courses will not count toward the required 63 hours of doctoral study:

| PUBH 8150 Biostatistics Methods I | 3 |
|---|---|
| PUBH 8170 Epidemiology in Public Health I | 3 |

a. Required coursework pre-2017

| Epidemiology Research Methods Core | 12 credit hours |
|---|-----------------|
| PUBH 8141 Epidemiologic Survey Method | 3 |
| PUBH 8172 Epidemiology in Public Health II | 3 |
| PUBH 8174 Epidemiology in Public Health III | 3 |
| PUBH 8450 Randomized Clinical Trials | 3 |
| | |

Epidemiology Advanced Core

9 credit hours (Select three)

| NURS 8103 Advanced Pathophysiology | 3 |
|---|---|
| PUBH 8104 Large Data Sets and Public Health Research | 3 |
| PUBH 8305 Quantitative Methods for Reviewing Research | 3 |
| PUBH 8208 Applied Survival Analysis in Public Health | 3 |

Epidemiology Subject Matter Core 9 credit hours (Select three) PUBH 8124 Environmental Toxicology 3 PUBH 8140 Epidemiology of Chronic Disease 3 PUBH 8442 Cancer Epidemiology 3 PUBH 8443 Infectious Disease Epidemiology 3 PUBH 8445 Genetic Epidemiology 3 **Bioststatiscs Core** 9 credit hours PUBH 8152 Biostatistical Methods II 3 Select two from: PSYC 8304 Measurement Theory and Psychometrics 3 3 PUBH 8307 Applied Structural Equations Modeling in PH PUBH 8308 Applied Multivariate Statistics 3 PUBH 8310 Mixed Model Regression Analysis 3 PUBH 8311 Applied Categorical Data Analysis 3 **Doctoral Seminar Core** 6 credit hours PUBH 8201 Special Topics: Doctoral Professional 3 **Development Seminar** PUBH 8900 Advanced Theoretical Readings in Public Health **Elective Courses** 9 credit hours 9 credit hours Dissertation

Students admitted Fall of 2017 and later:

PUBH 9000 Doctoral Dissertation

To qualify for graduation, students need to complete a minimum of 48 semester hours of graduate course work beyond the master's degree plus 6 hours of PUBH 9000 (Doctoral Dissertation), for a minimum of 54 graduate credit hours. The distribution of those 54 credits is below:

1-9

| Epidemiology Research Methods Core | 9 |
|------------------------------------|----|
| Biostatistics Core | 15 |
| Doctoral Seminar | 9 |
| Dissertation | 6 |
| Electives | 15 |

Additionally, all doctoral students are required to fulfill the following pre-requisites (6 credit hours) or document equivalent coursework. These two courses will not count toward the required 54 hours of doctoral study:

PUBH 8150 Biostatistics Methods I 3

b. Required coursework after 2017

| Epidemiology Research Methods Core | 9 credit hours |
|--|-----------------|
| PUBH 8141 Epidemiologic Survey Methods PUBH 8172 Epidemiology in Public Health II | 3 |
| PUBH 8174 Epidemiology in Public Health III | 3 |
| Bioststatiscs Core | 15 credit hours |
| PUBH 8152 Biostatistical Methods II | 3 |
| PUBH 8310 Mixed Model Regression Analysis | 3 |
| PUBH 8311 Applied Categorical Data Analysis | 3 |
| PUBH 8208 Applied Survival Analysis | 3 |
| PUBH 8202 Advanced SAS I | 3 |
| <u>Doctoral Seminar Core</u> | 9 credit hours |
| PUBH 8201 Doctoral Seminar: Professional Developme | ent 3 |
| PUBH 8192 Introduction to Human Disease | 3 |
| PUBH 8720 Grant Writing in Health Sciences | 3 |
| Elective Courses | 15 credit hours |
| <u>Dissertation</u> | 6 credit hours |
| PUBH 9000 Doctoral Dissertation | 1-6 |

Curriculum for the concentration in Biostatistics:

To qualify for graduation, students need to complete a minimum of 42 semester hours of graduate course work beyond the master's degree plus 12 hours of PUBH 9000 (Doctoral Dissertation), for a minimum of 54 graduate credit hours. The distribution of those 54 credits is below:

| General Core Biostatistics Core Doctoral Seminar Dissertation Electives | 12 12 6 12 12 |
|--|-------------------------------------|
| General Core Course | 12 credit hours |
| PUBH 8172 Epidemiology in Public Health II PUBH 8152 Biostatistical Methods II PUBH 8310 Mixed Model Regression Analysis PUBH 8311 Applied Categorical Data Analysis | 3 3 3 3 |
| Biostatistics Core MATH 7654 Inference Theory MATH 7643 Least Square and Regression Analysis PUBH 8309 Advanced Survival Analysis PUBH 8455 Clinical Trials II | 12 credit hours 3 3 3 3 |
| Doctoral Seminar Core PUBH 8901 Prof Development for PUBH Doctoral Stude PUBH 8720 Grant Writing in Health Sciences | 6 credit hours ents 3 3 |
| Subject Matter and Electives Biostatistics/Statistics (6 credit hours) MATH 7680 Bayesian Inference MATH 8685 Statistical Simulation and Computi MATH 8695 Bootstrap and Other Resampling N PUBH 8191 Advanced SAS for Public Health Pro PUBH 8308 Applied Multivariate Statistics PUBH 8104 Large Data Sets PUBH 8153 Biostatistics in Bioinformatics | Nethods 3 |
| Epidemiology (3 credit hours) PUBH 8174 Epidemiology in Public Health III PUBH 8140 Epidemiology of Chronic Disease PUBH 8442 Cancer Epidemiology PUBH 8443 Infectious Disease Epidemiology PUBH 8445 Genetic Epidemiology | 3 3 3 3 3 |

| Environmental Health/Urban Health/ | |
|---|------|
| Social Behavioral Sciences/Health Management (3 credit hours) | |
| PUBH 8120 Environmental Health | 3 |
| PUBH 7126 Principles of Exposure and Risk Assessment | 3 |
| PUBH 7335 Structural and Environmental Issues in | |
| Urban Communities | 3 |
| PUBH 8130 Social Determinants of Health | 3 |
| PUBH 8132 Health Program Evaluation | 3 |
| PUBH 8505 Aging and Public Health | 3 |
| HADM 8160 Health Policy | 3 |
| HADM 8710 Health Care Economics | 3 |
| HADM 8109 Health Care Information Systems | 3 |
| Dissertation 12 credit hou | ırs |
| PUBH 9000 | 1-12 |

Graduation Analysis and Annual Review

Doctoral students and their faculty advisors will maintain a graduate analysis form (See page 26) in Forms section). The advisor is expected to keep abreast of school and departmental degree requirements so that he/she can counsel students on courses and the proper progression towards the degree. Each semester the student is expected to meet with his/advisor to discuss registration and to ensure that progress is being made. The advisor will complete the PhD Advising form (page 38), which the advisor and student will sign, and it, along with a copy of the graduation analysis, will be placed in the students advising folder.

At the end of each academic year, the student will arrange for his/her annual review with his/her advisor. The student must complete and submit the annual review form (See page 31 in Forms) to the major advisor for review at least one week prior to the scheduled review meeting. Please also attach your Graduation Analysis to this document. During the review, the major advisor will provide her/his assessment, summary comments, and feedback. The form must be signed by the advisor and the student. It will be kept in the student's files and will be used for evaluating the student's overall progress and writing recommendation letters.

C. Course load

Full-time students are expected to register for a minimum of 9 credits per semester. Full-time students with graduate assistantships are required register for 9 credits each semester. Part-time students are expected to carry a minimum of 6 credits per semester, unless permission is granted from the advisor for a reduced course load.

D. Grades/Retention

Students must earn a grade of B (3.0) or higher in all required courses. The PhD program will adhere to Graduate School policy regarding course grades and repetition of courses (<u>Graduate School Policies</u>) program requirements must have the advisor's written approval.

E. Comprehensive exam

Overview

The student must successfully complete all required coursework prior to taking the comprehensive examination. The exam is comprised of written and oral components. The comprehensive exam will assess mastery of areas covered in the epidemiology doctoral program, and its content will assess adequate knowledge of competencies in epidemiology and biostatistics. For a concentration in Epidemiology, this includes key concepts in epidemiology, epidemiological study design, important public health problems, essential biostatistical methods, and ability to apply learned knowledge and skills to critically assess epidemiological literature. For a concentration in Biostatistics, basic concepts in epidemiology, standard and advanced biostatistical methods, and statistic theory will be tested. Since the examination is designed to test each student's knowledge of the field, it is not confined to the materials covered in prior classes.

Eligibility Requirements

Prior to initiating the examination process, a student must have completed at least the Program required core courses (i.e., 24 credit hours). Additionally, the student is required to be enrolled in the semester he/she proposes to take the comprehensive exam. This usually occurs during the 4 or 5th semester of enrollment for full-time students and the 6 or 7th semester of enrollment for part-time students.

Composition of Committee

The comprehensive exam committee for Epidemiology concentration will be composed of 6 faculty members from the Division of Epidemiology, Biostatistics and Environmental Health (EBE). The committee for Biostatistics concentration will be composed of 5 faculty members with 4 from the Division of EBE (3 biostatistics faculty and one epidemiology faculty) and one from the Statistics Program in the Department of Mathematical Sciences. The committee will be selected on a rotational basis from the faculty of the division (e.g., every 3 years).

Timeline

The comprehensive exam is usually scheduled once every academic year. Preparation for the comprehensive examination should begin at least one semester before the exam. Organized review sessions will be provided by faculty members in the Division before the exam. Students should inform the program coordinator on his/her intention to take the comprehensive exam at least three months prior the exam date.

Written Component

The exam duration is 6.5 hours, in class, typical during the day from 9:30AM to 4:00PM.

For concentration in Epidemiology, the written portion of the examination will consist of a choice of three of four epidemiology questions, and a choice of two of three biostatistics questions. The student, therefore, is required to answer five questions in the written exam. At every round of the comprehensive exam, members of the Division's faculty will be asked to provide 1 or 2 questions for the

written exam. The final selection of the questions to be included in the actual exam will be made by the exam committee. In certain circumstances, SPH faculty from outside the division may be asked to provide written questions or participate as an exam evaluator if needed.

For concentration in Biostatistics, the written portion of the examination will consist of a choice of four from five biostatistics questions that cover topics in MATH 7654 (Inference Theory), PUBH 8309 (Advanced Survival Analysis), PUBH 8310 (Mixed Model Regression Analysis), PUBH 8311 (Applied Categorial Data Analysis), PUBH 8455 (Clinical Trial II), and a choice of one from two epidemiology (PUBH 8172 Epidemiology in Public Health II) questions. The student, therefore, is required to answer five questions in the written exam. At every round of the comprehensive exam, members of the Division's faculty and faculty in the Statistics Program in the Department of Mathematical Sciences will be asked to provide 1 or 2 questions for the written exam, within the scope of required courses for the Biostatistics concentration. The final selection of the questions to be included in the actual exam will be made by the exam committee. In certain circumstances, SPH faculty from outside the Division may be asked to provide written questions or participate as an exam evaluator if needed.

Written questions from each student are evaluated and graded by at least two faculty members independently. The final grade of each written question is the mean of the two grades for that question, and any major discrepancies will be discussed between the graders and the exam committee chair. Scoring less than 60 out of 100 on any question is considered unsatisfactory for that question. If a student scores below 70 on any particular question, he/she is expected to clarify the answers to the question during the oral exam. However, if a student scores less than 60 out of 100 on two or more general questions, he/she is considered to fail the overall comprehensive exam.

Oral Component

The student is allowed to take the oral exam only if he/she has passed the written exam.

Concentration in Epidemiology: The student will be randomly assigned one peer-reviewed, published journal article. The topic may not be related to the student's current research or dissertation. The article will be distributed one day (24 hours) prior to the oral exam date. No written answers are needed.

During the oral exam, the student's understanding of the paper will be assessed through a question/answer session with the committee. Questions are mainly focused on epidemiological and biostatistical methods and their applications to the specific topic. The duration of the oral exam is approximately one hour.

Concentration in Biostatistics: The oral exam will be extensions of questions tested in written exam and topics related.

For both concentrations, all of the exam committee members participate in the exam session and evaluate the examinee's performance. Faculty members outside the exam committee and student's advisors may also be invited to attend the exam session but will not vote on the examinee's results.

Only a grade of "Pass" or "Fail" will be recorded for the oral exam. If the student fails the oral exam, he/she may retake only the oral exam.

A student will be allowed to take the comprehensive exam a maximum of two times.

Academic integrity

Students are expected to work on the questions independently. No collaboration is allowed among students. Any questions regarding the exam should be raised to the chair of the exam committee. No consultation is allowed with other faculty members.

All written work submitted must be the student's original work and conform to the guidelines of the American Medical Association (AMA) or American Psychological Association (APA) which are available online and via their publications. This means that any substantive ideas, phrases, sentences, and/or any published ideas must be properly referenced to avoid even the appearance of plagiarism. Plagiarism includes, but is not limited to, the use, by paraphrase or direct quotation, of the published or unpublished work of another person without full or clear acknowledgment. It also includes the unacknowledged use of materials prepared by another person or agency in the selling of term papers or other academic materials. It is the student's responsibility to know all relevant university policies concerning plagiarism. Any documented cases of plagiarism can and will result in dismissal from the course with a failing grade, and may result in other more serious sanctions by the School of Public Health and The University of Memphis.

Cheating is unacceptable at the University of Memphis. Cheating includes but is not limited to the following: using any unauthorized assistance in taking quizzes or tests; acquiring tests or other academic material before such material is revealed or distributed by the instructor; failing to abide by the instructions of the proctor concerning test taking procedures; influencing, or attempting to influence, any university employee in order to affect a student's grade or evaluations; any forgery, alteration, unauthorized possession, or misuse of University documents. See Academic misconduct for specific University definitions and policies.

Any concerns raised by faculty members or students regarding student's academic integrity will be reviewed by the exam committee and an additional oral exam will be held to clarify the issue.

F. Dissertation

To fulfill the requirements for the PhD in Epidemiology, the student must write and defend a dissertation. The dissertation must adhere to the format outlined by the Graduate School. The dissertation topic will be determined by the student in consultation with the advisor and input from the advisory committee.

Proposal

The student must provide a project description which contains a detailed discussion of the following specific points:

1. Objectives of the research project and what it is intended to accomplish.

- 2. The scientific and/or policy problem(s) that will be addressed and their significance.
- Related research that addresses the identified problem(s), a discussion of literature supporting
 the study, the relevant theoretical basis of the research and any theoretical and conceptual
 issues at stake.
- 4. (Concentration in Epidemiology) The population to be studied, questions to be answered, and/or the hypotheses to be tested by the project.
- 5. (Concentration in Epidemiology) The methodological procedures, and whenever applicable, information on such matters as sampling procedures and control groups, as well as description of the types and source of data, specific variables to be measured, anticipated methodological challenges, specific statistical or other types of analyses approaches, and steps that will be taken to protect human subjects as appropriate. All proposals should specify the sources and methods to be used and provide a reasoned argument that these are desirable to address the research questions proposed.
- 6. (Concentration in Biostatistics) Identification of gaps in methodology in the related research area and plans to address them as well as theoretical properties if applicable.
- 7. (Concentration in Biostatistics) Plans for simulation studies and criteria to evaluate the methods.
- 8. The organization of the project and work plan, including a schedule of the main steps of the proposed investigation and anticipated timeline.
- 9. Where relevant, a discussion of the facilities and resources available for the project.
- 10. Other pertinent information, such as study strengths and weaknesses, deemed appropriate by the student and their advisor.

Oral Defense of Proposal

Each student's dissertation proposal must be reviewed and approved by the dissertation committee. For this purpose, the student is required to defend her/his dissertation proposal at least one semester before dissertation defense.

Advisor and dissertation committee

The graduate student's academic advisor should play several critical roles in the advancement of an advisee. The advisor should guide his/her advisee's research from beginning through completion of the program. Advising generally begins before the student arrives on campus and should be based on advisee's research interests and professional goals when they are admitted to the program. The advisor should work with the advisee to develop the student's overall study program and determine which courses will be taken each semester based on student's research goals and the program requirements. The advisor should consider options such as transfer of prior classes and 'credit by exam', as well as the timing of course offerings within the School of Public Health, when registering for classes. Occasionally

the student may be asked by the advisor and/or the chair of the dissertation committee to assist with teaching, and/or to work on research projects other than student's own thesis/dissertation. Such tasks should be viewed as an intrinsic part of the learning process, and an opportunity to grow professionally.

After the student passes their comprehensive exam, the student should assemble the dissertation committee. The academic advisor may serve as chair of the dissertation committee, but the student is free to seek a different chair of her/his dissertation committee. The dissertation committee should consist of at least four faculty members (suggest not more than five) with at least three members being from EBE. These faculty members should hold an appointment as Assistant Professor or higher and have a graduate faculty status. One adjunct or one research faculty member may serve on the committee, but not two. One or two committee members are required from outside the division or the University of Memphis. In the event of an invited committee member from outside the University of Memphis, the division must follow the Graduate School guideline for such appointments (Graduate Faculty Status). The Dissertation Faculty Committee Form must be completed and submitted to the graduate school as soon as the committee is formed. The Faculty Committee Form can be accessed in the "Thesis/Dissertation Forms and Sample Pages" section of the graduate school website (Thesis/Dissertation Forms).

Dissertation guidelines

All doctoral students must complete an original investigation presented in the form of a dissertation. The dissertation must be based on original research 1) with novel biostatistics methods (concentration in Biostatistics), and 2) using either primary data collection or secondary data analysis, of publication quality, and acceptable to the EBE and to a committee of dissertation readers.

Two formats of dissertation are acceptable: the traditional doctoral dissertation and a manuscriptoriented dissertation.

A traditional doctoral dissertation for concentration in Epidemiology consists of a statement of the questions or hypotheses, specific aims, and related hypotheses; a literature review; explanation of research methodology, data collection procedure, analysis of data, presentation of results; and a discussion of findings and their public health implications. For concentration in Biostatistics, a traditional doctoral dissertation includes introduction and literature review which introduces study questions and their motivations, proposed methodology for each study question along with simulation studies, real data applications, and summary and discussions.

In a manuscript-oriented dissertation, students will need to prepare three published or publishable manuscripts on the subthemes derived from the main dissertation topic. These three manuscripts will consist the mid 3 chapters of the dissertation and should be accompanied by the first introductory chapter that introduces the overarching theme and one concluding chapter that synthesizes all of the findings.

Students should discuss both options with their advisor before deciding on a dissertation strategy.

A satisfactory investigation and its presentation in the form of a dissertation approved by a committee complete the written portion of the dissertation requirement. The material contained in the dissertation should be of a publication quality in scientific journal(s) in the relevant field. The dissertation must adhere to the format outlined by the Graduate School Thesis/Dissertation Guidelines.

Oral Defense of Dissertation

When the student's committee have agreed that the dissertation is ready for defense, the student should schedule a time for the oral defense of his/her dissertation. The dissertation chair should issue an announcement (i.e., time, location and topic) via email of the oral defense and invite all faculty and students to attend. The student and the entire dissertation committee must attend the defense. At the defense, the student should present his/her dissertation work to the committee and all other interested persons. The presentation is approximately one hour and the student will respond to questions from the audience members after the presentation. Then the dissertation committee will hold additional close-door evaluation after the audience is excused. After the defense, the dissertation committee will vote to approve or disapprove the dissertation.

The student should bring the partially completed "Thesis/Dissertation Defense Results" form (Thesis/Dissertation Forms) with her/him to their defense. Once the student has successfully defended her/his dissertation the committee will complete the form and the student will submit it to the graduate coordinator and graduate school within 24 hours.

When scheduling the oral defense, the student should be mindful of the graduate school deadlines for submitting completed dissertations. The deadlines can be found at <u>Graduate School Deadlines</u>.

G. Graduation Requirements

Students must apply to graduate and submit the doctoral candidacy form in the semester before they plan to graduate. The forms are located in your MyMemphis.edu portal on the "My Degree" tab. Deadlines and specific instructions for filling out these forms can be found at Graduate School Deadlines.

Following successful defense of dissertation, the student should make any necessary changes/corrections suggested by his/her committee and submit one plain-paper copy of his/her dissertation to the Graduate School before the dissertation review deadline (Graduate School Deadlines). After receiving the reviewed dissertation from the Graduate school the student should make all necessary changes and submit an electronic copy of his/her dissertation before the final deadline using the Electronic Thesis/Dissertation website Electronic Thesis/Dissertation Website.

IV. Administrative information

A. Assistantships

A limited number of graduate assistantships are available to full-time students. These assistantships provide in-state tuition and a stipend in return for 20 hours of work per week for faculty of the EBE division. A graduate assistant is a student who, under faculty supervision, performs functions related to teaching, research and/or services, and in doing so, receive valuable, practical experience.

Graduate assistants (GAs) must maintain a 3.00 GPA and be registered for at least nine (9) credits to retain their assistantships. Additionally, GAs must adhere to the work schedule determined jointly by

the supervisor and the student at the beginning of each semester. GAs who fail to perform their duties satisfactorily may be terminated form their appointments.

B. Academic Conduct

The University of Memphis Code of Student Conduct defines academic misconduct as all acts of cheating, plagiarism, forgery and falsification. The term "cheating" includes, but is not limited to: using any unauthorized assistance in taking quizzes or tests; using sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments; acquiring tests or other academic material before such material is revealed or distributed by the instructor; misrepresenting papers, reports, assignments or other materials as the product of a student's sole independent effort; failing to abide by the instructions of the proctor concerning test-taking procedures; influencing, or attempting to influence, any University employee in order to affect a student's grade or evaluation; any forgery, alteration, unauthorized possession, or misuse of University documents.

The term "plagiarism" includes, but is not limited to, the use, by paraphrase or direct quotation, of the published or unpublished work of another person without full or clear acknowledgment. It also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials.

Academic dishonesty also includes furnishing false information to any University official, faculty member or office; and forgery, alteration, or misuse of any University document, record, or instrument of identification.

C. Training in the Responsible Conduct of Research

The PhD in epidemiology program requires doctoral students to demonstrate training in the responsible conduct of research by completing CITI training. As of 10/31/2011 CITI, researchers (including students and faculty) at the University of Memphis who apply for IRB review must have a current CITI certification on file. There is no need to provide proof of certification to the IRB. Your certificate of completion will be forwarded to the IRB Administrator by CITI once you've completed training.

The following are basic learner instructions to logon to your CITI site for the first time:

- 1. New Users go to CITI Training to register for CITI online training. Once there, click on "New Users Register Here".
- 2. Under "Select your institution or organization" page select your institution (University of Memphis) in the "Participating Institutions" drop down box.
- 3. Next proceed to create your own username and password and then select the learner group.

D. Laboratory policy

At present, SPH has two working wet-laboratories (rooms 325 and 333), and one stand-by laboratory (room 332) that are used for research and training purposes. These laboratories have several analytical instruments to facilitate public health research.

Laboratory Access for students who will work in SPH laboratories

To gain access to the SPH laboratories, students must attend appropriate training(s) for compliance with University of Memphis policies including (but not limited to) management of hazardous chemicals, sources of ionizing radiation, and biological agents. These training sessions are administered by the Office of Environmental Health and Safety (EH&S) to ensure proper employee training and workplace safety. Student's advisor will provide information on these trainings. For more information, please visit EH&S website: EH&S.

Access to the laboratory is granted by respective laboratory principal investigators (PI). Upon recommendation from the PI(s), the student will receive a laboratory access card from the SPH Business Office. This access card will be deactivated when the student is no longer associated with the laboratory.

E. Civil Rights and Non-Discrimination Policy

The U of M shall not, on the basis of a protected status, subject any student to discrimination under any educational program. No student shall be discriminatorily excluded from participation or denied the benefits of any educational program on the basis of a protected status.

It is the intent of the University of Memphis that each campus of the University shall be free of harassment on the basis of sex, race, color, religion, national origin, age or any other protected status and shall fully comply with the anti-harassment provisions of Titles VI and VII of the Civil Rights Act of 1964, as amended; Title IX of the Education Amendments of 1972, as amended, the federal and state constitutions, and all other applicable federal and state statutes.

The University specifically finds that diversity of students, faculty, administrators and staff is a crucial element of the educational process and reaffirms its commitment to enhancing education through affirmative action to increase diversity at all levels.

F. Funding

The EBE Division is committed to seeking opportunities that will allow it to provide financial support to its students. Most full-time eligible accepted applicants will be considered for School of Public Health scholarship support in the form of graduate assistantships; acceptance, however, does not guarantee an assistantship. Departmental scholarship decisions are made during the admission process and communicated to students in their letters of acceptance.

Limited federal assistance, in the form of work-study, Stafford Loans, or Perkins Loans, is also available. Contact the Office of Student Aid at (901) 678-2303 for more information. VA (Veterans Administration) benefits and Title IV funds for enrollment fees are subject to cancellation and immediate repayment if the recipient stops attending, whether or not he/she has withdrawn or dropped a course. The instructor

will report the last known date of attendance as the unofficial withdrawal date. Students who stop attending will be assigned a grade of F in courses that do not reflect an official withdrawal or Incomplete.

Students are motivated to seek individual funding early in their program. Please contact your advisor for possible opportunities. Faculty will also support students when applying for Individual Pre-doctoral Awards.

G. Academic Calendar

Academic year calendars mark the major activity dates (class start/end dates, exam dates, and commencement) of each term and its parts. Each Academic Year begins with the Fall term and ends at the conclusion of the Summer term. Academic calendars are available from the Office of the Registrar and can be accessed at Academic Calendars

Students wanting registration, add/drop, fee payment, etc., dates and deadlines for a particular, immediate semester should review the Dates & Deadlines Calendar for that term.

H. Withdrawing from the Program and Leave of Absence

Students are admitted to our program because they have shown exceptional performance as a student, have terrific letters of reference, have expressed an interest in being trained in epidemiology, and have interests that "fit" with one or more faculty members. Occasionally, students discover that their career interests have changed, and once in a while a student will withdraw from the program to pursue their other interests. In this situation, we strongly suggest that the student schedule a meeting with his or her faculty advisor and the Division Director. There are several purposes to this meeting: First, faculty could answer questions about how to go about withdrawing from the program, and second, the student could share some direct feedback about the strengths and weaknesses of the program. In some cases, a student may benefit from a Leave of Absence instead of a withdrawal, and your faculty advisor can provide you with information about this option, if needed.

I. Parental Leave Policy

Graduate students may request parental leave following the adoption or birth of a child. Parental leave applies to either parent. If both parents are graduate students, both may request simultaneous parental leave. The leave begins on the day the graduate student or postdoctoral fellow is no longer fully engaged in their professional and academic activities and, to the extent possible, should be requested in advance of a birth or adoption. Retroactive requests will be considered on a case-by-case basis.

J. Loan Deferment

A student with an outstanding Federal Stafford loans may not be required to pay on these loans while enrolled as a graduate student in the program. Students <u>must</u> complete a loan deferment form during his/her period of enrollment at the School of Public Health. All loan deferment forms should be taken directly to the Registrar's Office in 003 Wilder Tower. This office is responsible for enrollment certification. For further information on loan deferment and enrollment verification, contact the Office of Financial Aid at 901-678-4825.

K. Safety Alerts/Inclement Weather

Students should download the LiveSafe app. University of Memphis' new comprehensive personal can be downloaded for free and allows you to receive instant alerts from Police Services. Additionally, it provides a quick, convenient and discreet way to communicate directly with Police Services. The app will allow members of the campus to send text, pictures, video and audio directly to Police Services in real time. It also allows for a live chat with safety personnel. The app includes the option to share tips and information anonymously. In addition, subscribers can use SafeWalk to invite personal contacts to virtually escort you as you chat. For more information go to LiveSafe.

Additionally, students can call 678-0888 or check the University website for the latest information on class cancellations due to inclement weather.

L. Grievance Procedures

Sometimes during a student's time in graduate school, a situation can arise that requires mediation to reduce/resolve conflict. The program has a plan for this. We recommend that you take the following actions for expressing concerns, if possible, in this order:

- 1. Go to the person with whom you have a complaint and try to come to a resolution.
- 2. Seek out your advisor to address the issue
- 3. Go to your Program Coordinator to address the issue
- 4. Meet with your Division Director
- 5. Meet with the Assistant Dean for Academic Affairs
- 6. File formal complaint with:
 - Dean of Students (https://www.memphis.edu/report/submit-a-report/concern-complaint.php) for general complaints about students, academic integrity or grading concerns
 - b. Office of Institutional Equity (https://www.memphis.edu/oie/complaint.php) for discrimination, harassment, or retaliation complaints

V. Student Support Services at the University of Memphis

A. University Library Services

The University Libraries are significant resources for both The University of Memphis and the Mid-South region. While the primary mission of The University Libraries is to serve the University community, library services are extended to students and faculty in other colleges and universities in the Memphis including the libraries' support group, the Friends of the Libraries. Individuals not associated with The University of Memphis can request a Library Privileges Card at the McWherter Library Circulation Desk. The Ned R. McWherter Library is located west of Zach Curlin Drive and south of Norriswood Avenue.

Constructed under earthquake-resistant building codes, the McWherter Library was designed to provide state-of-the-art access to information technology and to be fully accessible to the disabled. It has 725 network connections throughout the building, including those in study carrels, group study rooms and the 24-hour Learning Commons. Wireless connectivity is provided throughout the building on all floors. The building's distinctive feature is the domed rotunda, copper-covered on the outside and centered with an oculus that floods the interior glass walls and grand staircase with natural light and spotlights the compass rose inlay of the granite floor four stories below. The University seal in the center of the eight-point compass contains a date which is changed each year, allowing University graduates to make souvenir rubbings.

Branch Libraries

The University Libraries includes the McWherter Library and four branch libraries: Audiology & Speech Language Pathology, Chemistry, Mathematics, and Music. All are located on the Main Campus except the Audiology and Speech Language Pathology Library, which is at 807 Jefferson Ave.

B. Educational Support Services

Educational Support Program (ESP) provides academic assistance for classes that students are currently taking at the U of Memphis. Students may find the English Learning Center (ELC) particularly helpful. The ELC is designed to enhance the student's evaluation of his/her own writing and to produce clear, coherent work. Tutors provide instruction in all phases of the writing process from choosing a topic to reviewing and revising for a final draft. Bring any writing assignment for any discipline to the English Learning Center. You can get help with research papers, writing assignments, essay exam preparation, and reading literature. TigerLan computers and printers are available at this location.

Additional free services are available to graduate and undergraduate students and more information on the ESP may be found at <u>Educational Support Program</u>.

C. Health Services

Student Health Services is an accessible, cost effective health care facility that emphasizes campus wide health promotion, disease prevention, and acute episodic outpatient medical care. Individualized attention, courtesy and patient confidentiality to all is of primary importance. Student Health Services is staffed with a Physician, Nurse Practitioners, Registered Nurses, Licensed Practical Nurse, Laboratory and X-ray Technologist, Health Educator, and various administrative support personnel. Short-term, acute illnesses and injuries are addressed at Student Health Services. Patients with chronic, complex or recurrent medical conditions must continue to use their primary care physician for issues related to their chronic illness.

No routine physicals are performed at Student Health Services. Only lab tests ordered by Student Health Service medical providers will be performed. Job related injuries are not treated at Student Health Services. If you are a student employee at the university and you are injured on the job, you must report the incident to your supervisor who will obtain the appropriate paperwork from the Human Department. A Family Planning Clinic is provided by the Memphis and Shelby County Public Health Department. The Family Planning Clinic provides birth control information, devices, medications, and

examinations by appointment. Family Planning Clinic fees are based on a sliding scale and are separate from Health Services charges. Payment may be made by cash or check only. To schedule or cancel an appointment, please call 678-2643.

Medical services are available to all students, faculty and staff. Students may be seen during the semester in which they are enrolled. A current University ID must be presented for admission. Students enrolled at the university are not charged an access fee. Most routine diagnostic and laboratory analyses required for treatment will be at NO charge. Students pay fees for dispensary medications, and vaccinations. Students will be notified of any charges before a test or procedure is performed. Student Health Services requests payment before services are provided. Payment may be made by cash, check, credit card, or Tiger Funds. Students may be seen between the Fall and Spring or Spring and Fall semesters for an access fee. Additional service fees may apply. When more in-depth evaluation or treatment is needed the patient is referred off-campus. All charges are the responsibility of the patient. Students may be seen between the Fall and Spring or Spring and Fall semesters for an access fee.

Student Health Services is located on the main campus at 3770 Desoto Avenue, south of McWherter Library. Our mailing address is: The University of Memphis, Student Health Services, 200 Hudson Health Center, Memphis, TN 38152.

For hours and information see <u>Student Health Services</u>. No appointment is necessary. The facility is closed weekends, holidays, and announced university closures, during these times, students are to use outpatient health care resources.

D. Counseling Center

The <u>Counseling Center</u> provides free counseling, wellness, and psychiatric services for University of Memphis students. All services are confidential, and most are available free of charge for currently enrolled students. We value and accept differences among people, including those of national origin, race, gender, gender expression, sexual orientation, ethnicity, functional ability, socio-economic status, age, and religious affiliation.

E. International Student Advisement

The International Student Office is one of the divisions that comprise the Center for International Programs and Services (CIPS). The CIPS staff assists the now more than 1000 foreign students, scholars and professors on our campus. The International Student Office supports the international population at The University of Memphis by providing advice on immigration matters, employment, taxation, cultural adjustment, and other practical issues. This office is also responsible for maintaining University compliance with the United States Student and Exchange Visitor System (SEVIS) which reports directly to the U.S. Immigration and Customs Enforcement office. Additionally, they conduct an international student orientation each semester, coordinate insurance information, and assist student groups in the development of International Night and other cultural functions.

F. Graduate Student Housing

The University of Memphis offers Student Family Housing, located on the South Campus approximately one mile from the main campus. Phase One consists of 56 one-bedroom townhouse apartments, 62 two-bedroom townhouse apartments, and 8 two-bedroom flats. All apartments are equipped with stove, refrigerator, garbage disposal, living room carpet, and venetian blinds. Electric central heat and air are also provided. Each apartment has an enclosed private patio at the rear. The new Phase Two consists of 24 two-bedroom flats. These apartments are equipped with a stove, frost-free refrigerator, garbage disposal, dishwasher, venetian blinds, thermal pane windows, hook-ups for stackable washers and dryers, and carpet for living room and bedrooms. Gas central heat and air are also provided. Each apartment has a patio/balcony with locking storage area. Four apartments are specifically designed for physically disabled students.

Application forms may be obtained from the Office of Residence Life in Room 011, Richardson Towers or from their website, http://www.memphis.edu/reslife/apply.php. A \$100 application/ reservation deposit is required when the application is submitted. For more information, please see http://www.memphis.edu/reslife/apply.php.

G. Parking

General Permit Parking is paid for through the Maintenance Fee portion of semester tuition. . For parking permits see Parking. Once the student has registered for classes, a semester validation sticker will be mailed to the address on file with the Student Records Department. New students are mailed a permit (hangtag) along with a semester validation sticker prior to Fee Payment. The permits (hangtags) run on a three-year cycle and need to be updated every semester. If, for any reason, the student does not receive the semester validation sticker or permit through mail, he/she needs to come to the Parking Office the first week of class to obtain one. The semester validation sticker should be placed on the right side of permit. This validates the permit (hangtag) to be used in General Parking Lots only.

VI. Student Associations

A. Graduate Student Association

The University of Memphis Graduate Student Association: 1) provides opportunity for discussion and recommendations on matters of concern to graduate students, 2) represents the interests of all graduate students campus-wide, 3) is the official liaison for graduate students to communicate as a group with University and Graduate School administrators, and 4) advocates for support of graduate student research and teaching experience.

All enrolled graduate students are automatically members of the GSA, are encouraged to participate in GSA discussions and activities, and may serve on GSA committees and working groups. Every fall, and as needed throughout the academic year, a student from each department is elected or chosen to represent that department as a voting member of the GSA Leadership Council. If you are interested in serving as a representative please contact the GSA President (901.678.3220).

B. Public Health Student Association

The Public Health Student Association (PHSA) is a student organization for graduate public health students enrolled in the School of Public Health at the University of Memphis. The PHSA serves as a forum for student concerns and activities.

The purpose of the PHSA is to facilitate student-student and student-faculty communication and cohesiveness within the School of Public Health. The organization advocates on issues pertaining to all aspects of the academic experience, including research opportunities, student representation, and public health issues. Ultimately, the PHSA will strive to create a strong and enduring foundation for future public health leaders.

The mission of the PHSA is to:

- 1. Promote awareness of career and academic issues related to the field of public health by serving as a voice to the faculty and administration.
- 2. Support all public health students at U of M academically, professionally, and socially.
- 3. Organize health-related volunteer activities within the community.
- 4. Collaborate with health organizations agencies, and associations regarding public health programming activities.
- 5. Encourage students to actively pursue educational and professional development.
- 6. Host regular social events for public health students to foster positive interactions among students, faculty and staff.

Membership is open to all students enrolled in a School of Public Health degree program. Meetings are held a minimum of once a month. Contact an officer for more information. Dr. Marian Levy serves as Faculty Advisor to the PHSA.

VII: Forms

School of Public Health, University of Memphis Doctoral Degree in Epidemiology & Biostatistics* Concentration in Epidemiology* Graduation Analysis (Pre-2017)

| NAME: | UUID#: | ADMITTED: |
|--------|--------|---------------|
| 10,000 | 00.5 | , 15111111251 |

I. Epidemiology Research Methods Core: 12 credit hours

| PREFIX | COURSE DESCRIPTION | LEVEL | HOURS | TERM | GRADE |
|-------------------------|-----------------------------------|-------|-------|------|-------|
| PUBH 8141 | Epidemiologic Survey Method | | 3 | | |
| PUBH 8172 | Epidemiology in Public Health II | | 3 | | |
| PUBH 8174 | Epidemiology in Public Health III | | 3 | | |
| PUBH 8450 | Randomized Clinical Trials | | 3 | | |
| Credit Hours Completed: | | | | | |

II. Epidemiology Advanced Core: 9 credit hours (Select three)

| PUBH 8208 A | Applied Survival Analysis in Public Health | | 3 | | |
|---------------|---|-------|-------|------|-------|
| DUDU 0200 / | 9 | | | | |
| PUBH 8305 (| Quantitative Methods for Reviewing Research | | 3 | | |
| PUBH 8104 L | Large Data Sets and Public Health Research | | 3 | | |
| NURS 8103 A | Advanced Pathophysiology | | 3 | | |
| PREFIX (| COURSE DESCRIPTION | LEVEL | HOURS | TERM | GRADE |

III. Epidemiology Subject Matter Core: 9 credit hours (Select three)

| PREFIXCOURSE DESCRIPTIONLEVELHOURSTERMGRADEPUBH 8120Introduction to Environmental Health33PUBH 8140Epidemiology of Chronic Disease33PUBH 8442Cancer Epidemiology33PUBH 8443Infectious Disease Epidemiology33PUBH 8445Genetic Epidemiology33 | | Credit Hours Completed: | | | | |
|---|-----------|--------------------------------------|-------|-------|------|-------|
| PUBH 8120 Introduction to Environmental Health PUBH 8140 Epidemiology of Chronic Disease PUBH 8442 Cancer Epidemiology 3 PUBH 8442 Cancer Epidemiology | PUBH 8445 | Genetic Epidemiology | | 3 | | |
| PUBH 8120 Introduction to Environmental Health PUBH 8140 Epidemiology of Chronic Disease 3 | PUBH 8443 | Infectious Disease Epidemiology | | 3 | | |
| PUBH 8120 Introduction to Environmental Health 3 | PUBH 8442 | Cancer Epidemiology | | 3 | | |
| | PUBH 8140 | Epidemiology of Chronic Disease | | 3 | | |
| PREFIX COURSE DESCRIPTION LEVEL HOURS TERM GRADE | PUBH 8120 | Introduction to Environmental Health | | 3 | | |
| | PREFIX | COURSE DESCRIPTION | LEVEL | HOURS | TERM | GRADE |

IV. Biostatistics Core: 9 credit hours

| PREFIX | COURSE DESCRIPTION | LEVEL | HOURS | TERM | GRADE |
|---------------|---|-------|-------------------------|------|-------|
| Required (3 I | nours) | | | | |
| PUBH 8152 | Biostatistical Methods II | | 3 | | |
| Select Two fr | om the Following Courses | | | | |
| PSYC 8304 | Measurement Theory and Psychometrics | | 3 | | |
| PUBH 8307 | Applied Structural Equations Modeling in P.H. | | 3 | | |
| PUBH 8308 | Applied Multivariate Statistics | | 3 | | |
| PUBH 8310 | Mixed Model Regression Analysis | | 3 | | |
| PUBH 8311 | Applied Categorical Data Analysis | | 3 | | |
| | | | Credit Hours Completed: | | |

V. Elective Courses

| PREFIX | COURSE DESCRIPTION | LEVEL | HOURS | TERM | GRADE |
|-----------------|--------------------|-------|-------|------|-------|
| Public Health I | Electives | | | | |

| PUBH 7210 | Advanced SAS II | 3 | |
|----------------|--|------------|---------------|
| PUBH 8124 | Environmental Toxicology | 3 | |
| PUBH 8125 | Environmental Health Microbiology | 3 | |
| PUBH 8126 | Principles of Exposure and Risk Analysis | 3 | |
| PUBH 8128 | Environmental Policy/Decision-Making | 3 | |
| PUBH 8129 | Environmental Sampling and Analysis | 3 | |
| PUBH 8130 | Social Determinants of Health | 3 | |
| PUBH 8132 | Health Program Evaluation | 3 | |
| PUBH 8160 | Social Behavioral Science Principles | 3 | |
| PUBH 8161 | Advanced Psychosocial Theories of Health and Healt | 3 | |
| PUBH 8334 | Community Based Participatory Research | 3 | |
| PUBH 8338 | Critical Issues in Global Health | 3 | |
| PUBH 8341 | Physical Activity and Public Health | 3 | |
| PUBH 8347 | Qualitative Methods in Health Research | 3 | |
| PUBH 8400 | Special Problems | 3 | |
| PUBH 8444 | Fundamentals of Public Health Surveillance | 3 | |
| PUBH 8501 | Health Systems Organization | 3 | |
| PUBH 8502 | Health Policy, Theory and Methods | 3 | |
| PUBH 8800 | Guided Research in Public Health (max 6 hours) | 3 | |
| Other Elective | S | | |
| BIOL 8080 | Public Health Microbiology | 3 | |
| ESCI 8613 | GIS and Human Health | 3 | |
| PSYC 8506 | Grant Writing | 3 | |
| | | Cradit Hau | rs Completed: |

VI. Doctoral Seminar Core: 6 credit hours

| PREFIX | COURSE DESCRIPTION | LEVEL | HOURS | TERM | GRADE |
|-----------|--|-------------------------|-------|------|-------|
| PUBH 8900 | Doctoral Seminar: Advanced Readings in Public Health | | 3 | | |
| PUBH 8901 | Doctoral Seminar: Professional Development | | 3 | | |
| | | Credit Hours Completed: | | | |

VII. Dissertation*

| PREFIX | COURSE DESCRIPTION (9 hours) | HOURS | TERM | GRADE | |
|-----------|------------------------------|--|------|-------|--|
| PUBH 9000 | Doctoral Dissertation | 1-9 | | | |
| | | Total Credit Hours Completed for Graduation: | | | |

VIII. Prerequisites

Students are required to fulfill the following pre-requisite courses or document their equivalent.

| | | Credit Hour | rs Completed: | | |
|-------------|---------------------------------|-------------|---------------|------|-------|
| PUBH 7170** | Epidemiology in Public Health I | | 3 | | |
| PUBH 7150** | Biostatistics Methods I | | 3 | | |
| PREFIX | COURSE DESCRIPTION (6 hours) | LEVEL | HOURS | TERM | GRADE |

[#] For students admitted before Fall 2020, they have the option to gain a PhD degree in Epidemiology or a PhD degree in Epidemiology and Biostatistics with concentration in Epidemiology.

Graduation Requirements:

- 1. Maintain a grade point average of 3.0 or higher in all required courses.
- 2. Complete a minimum of 54 semester hours of graduate course work beyond the master's degree plus 9 hours of PUBH 9000, for a minimum of 63 hours.
- 3. Take and pass both oral and written comprehensive examinations once 36 hours are completed and enrolled for at least 6 credit hours.
- 4. Write and defend a dissertation that adheres to the format outlined by the Graduate School.

Effective Spring Fall 2015

^{*} Students are required to take 9 credit hours toward their dissertation at The University of Memphis.

^{**} Do not count towards graduation

School of Public Health, University of Memphis Doctoral Degree in Epidemiology & Biostatistics# Concentration in Epidemiology#

(Fall 2017 and after) Graduation Analysis

| NAME: | IIIID#· | ADMITTED: |
|----------|---------|------------|
| INAIVIL. | 001D#. | ADIVITIED. |

I. Epidemiology Research Methods Core: 9 credit hours

| PREFIX COURSE DESCRIPTION LEVEL HOURS TERM GRADI PUBH 8141 Epidemiologic Survey Methods* 3 3 PUBH 8172 Epidemiology in Public Health III* 3 3 PUBH 8174 Epidemiology in Public Health III* 3 | | | | Credit Hours Completed: | | d: |
|--|-----------|------------------------------------|-------|--------------------------------|------|-------|
| PUBH 8141 Epidemiologic Survey Methods* 3 | PUBH 8174 | Epidemiology in Public Health III* | | 3 | | |
| | PUBH 8172 | Epidemiology in Public Health II* | | 3 | | |
| PREFIX COURSE DESCRIPTION LEVEL HOURS TERM GRADE | PUBH 8141 | Epidemiologic Survey Methods* | | 3 | | |
| | PREFIX | COURSE DESCRIPTION | LEVEL | HOURS | TERM | GRADE |

II. Biostatistics Core: 15 credit hours

| PREFIX | COURSE DESCRIPTION | LEVEL | HOURS | TERM | GRADE |
|-----------|--|-------|-------------------------|------|-------|
| PUBH 8152 | Biostatistical Methods II* | | 3 | | |
| PUBH 8310 | Mixed Model Regression Analysis* | | 3 | | |
| PUBH 8311 | Applied Categorical Data Analysis* | | 3 | | |
| PUBH 8208 | Applied Survival Analysis in Public Health | | 3 | | |
| PUBH 8202 | Advanced SAS for Public Health Professionals I | | 3 | | |
| | | | Credit Hours Completed: | | d: |

III. Doctoral Seminar Core: 9 credit hours

| PREFIX | COURSE DESCRIPTION | LEVEL | HOURS | TERM | GRADE |
|-----------|--|-------|-------|------|-------|
| PUBH 8900 | Doctoral seminar: Professional Development* | | 3 | | |
| PUBH 8192 | Introduction to Human Disease in Public Health | | 3 | | |
| PUBH 8720 | Grant Writing in Health Sciences | | 3 | | |
| | Credit Hours Completed: | | d: | | |

IV. Electives: 15 credit hours

| PREFIX | COURSE DESCRIPTION | LEVEL | HOURS | TERM | GRADE |
|--------|--------------------|-------|-----------|--------------|-------|
| | | | 3 | | |
| | | | 3 | | |
| | | | 3 | | |
| | | | 3 | | |
| | | | 3 | | |
| | | | Credit Ho | urs Complete | q. |

V. Dissertation: 6 credit hours

| | | | Cradit Ho | urs Complete | ۷٠ |
|-----------|-----------------------|-------|-----------|--------------|-------|
| PUBH 9000 | Doctoral Dissertation | | 6 | | |
| PREFIX | COURSE DESCRIPTION | LEVEL | HOURS | TERM | GRADE |

VI. Prerequisites**

Students are required to fulfill the following pre-requisite courses or document their equivalent.

| | | • | Credit Ho | urs Complete | d: |
|-----------|----------------------------------|-------|-----------|--------------|-------|
| PUBH 7170 | Epidemiology in Public Health I* | | 3 | | |
| PUBH 7150 | Biostatistical Methods I* | | 3 | | |
| PREFIX | COURSE DESCRIPTION (6 hours) | LEVEL | HOURS | TERM | GRADE |

[#] For students admitted before Fall 2020, they have the option to gain a PhD degree in Epidemiology or a PhD degree in Epidemiology and Biostatistics with concentration in Epidemiology.

- * Required prior to taking the comprehensive exam.
- ** Do not count towards graduation

Graduation Requirements:

- 1. Maintain a grade point average of 3.0 or higher in all required courses.
- 2. Complete a minimum of 48 semester hours of graduate course work beyond the master's degree for a minimum of 54 hours.
- 3. Take and pass both oral and written comprehensive examinations.
- 4. Write and defend a dissertation that adheres to the format outlined by the Graduate School.

Effective Fall 2017

School of Public Health, University of Memphis Doctoral Degree in Epidemiology & Biostatistics Concentration in Biostatistics Graduation Analysis

| NAME: | UUID#: | ADMITTED: |
|-------|--------|-----------|

I. General Core: 12 credit hours

| PREFIX | COURSE DESCRIPTION | LEVEL | HOURS | TERM | GRADE |
|-----------|-----------------------------------|-------|-----------|---------------|-------|
| PUBH 8152 | Biostatistical Methods II* | | 3 | | |
| PUBH 8172 | Epidemiology in Public Health II* | | 3 | | |
| PUBH 8310 | Mixed Model Regression Analysis* | | 3 | | |
| PUBH 8311 | Applied Categorical Data Analysis | | 3 | | |
| | | | Credit Ho | urs Completed | d: |

II. Biostatistics Core: 12 credit hours

| <u>L</u> | · | 1 | Cua dit IIa | ura Camplata | |
|-----------|---------------------------------------|-------|-------------|--------------|-------|
| MATH 7654 | Inference Theory* | | 3 | | |
| MATH 7643 | Least Square and Regression Analysis* | | 3 | | |
| PUBH 8455 | Clinical Trial II | | 3 | | |
| PUBH 8460 | Advanced Survival Analysis* | | 3 | | |
| PREFIX | COURSE DESCRIPTION | LEVEL | HOURS | TERM | GRADE |

Credit Hours Completed:

III. Doctoral Seminar Core: 6 credit hours

| PREFIX | COURSE DESCRIPTION | LEVEL | HOURS | TERM | GRADE |
|--|--|-------|-----------|-------------|-------|
| PUBH 89001 | Prof Development for PUBH Doctoral Students* | | 3 | | |
| PUBH 8720 Grant Writing in Health Sciences | | | 3 | | |
| | | | Credit Ho | urs Complet | ed: |

IV. Electives: 12 credit hours

| PREFIX COURSE DESCRIPTION LEVEL HOURS TERM GRAD 3 3 3 3 3 3 3 | | | Credit Ho | urs Complete | d· | |
|--|--------|--------------------|-----------|--------------|------|-------|
| PREFIX COURSE DESCRIPTION LEVEL HOURS TERM GRAD 3 3 3 3 | | | | 3 | | |
| PREFIX COURSE DESCRIPTION LEVEL HOURS TERM GRAD 3 3 3 | | | | 3 | | |
| PREFIX COURSE DESCRIPTION LEVEL HOURS TERM GRAD 3 | | | | 3 | | |
| PREFIX COURSE DESCRIPTION LEVEL HOURS TERM GRAD | | | | 3 | | |
| | PREFIX | COURSE DESCRIPTION | LEVEL | HOURS | TERM | GRADE |

V. Dissertation: 12 credit hours

| PUBH 9000 | Doctoral Dissertation | | 12 | urs Complete | al . |
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| PREFIX | COURSE DESCRIPTION | LEVEL | HOURS | TERM | GRADE |

VI. Prerequisites**

Students are required to fulfill the following pre-requisite courses or document their equivalent.

| PREFIX | COURSE DESCRIPTION (6 hours) | LEVEL | HOURS | TERM | GRADE |
|-----------|----------------------------------|-------|-------|------|-------|
| PUBH 7150 | Biostatistical Methods I* | | 3 | | |
| PUBH 7170 | Epidemiology in Public Health I* | | 3 | | |

^{*} Required prior to taking the comprehensive exam.

^{**} Do not count towards graduation

PhD Advising Summary Form



| Student's Name: | | Email: | | | |
|--|--------------|-----------------------------|-----------------------------|--|--|
| Program: | | Semester entered: | | | |
| Advisor's Name: | | Date: | _ | | |
| Planning for Semester/Year _ | | | | | |
| Topics discussed (Check all t | that apply) | | | | |
| ☐ Academic Issues ☐ Graduation Analysis ☐ Comprehensive Exam ☐ Other | ☐ Presentati | ions/Abstracts/Publications | ☐ Career Planning☐ Research | | |
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| (Graduation Analysis Form to | be attached) | | | | |
| Advisor signature: | | Student Signature: | | | |

Doctoral Student Annual Review

Division of Epidemiology, Biostatistics and



Environmental Health

| Date: / / | _ | | | |
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| sections of this form except student. The student should advisor, who will then comp | for the "Adviso then forward lete the "Advis tor. It will be ke | or Comn the com sor Com | nents" pleted ments' | eview with his/her advisor. All section should be completed by the form via email to his/her academic section and submit the form via ents' files and will be used for |
| Student: | | _Email: _ | | |
| (First) | (Last) | | | |
| Advisor: | | _Email: _ | | |
| (First) | (Last) | | | |
| Full or Part Time: | ☐ Full Time | Ī | □ Part | Time |
| Year in the program: \Box 1 st | □ 2 nd □ 3 rd | ☐ 4 th | □ 5 th | □ 6 th |
| Academic progress: | | | | |
| Credit hours completed: | | | | Current GPA: |
| Passed comprehensive exam | ? □ Yes | | □ No | Date passed: / / |

| If you have not yet passed the comprehensive exam, please describe your progress in preparation the exam and anticipated date | arin |
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| Tor the exam and anticipated date | |
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| Dissertation working title: | |
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| Completed dissertation proposal defense: Yes No Date passed: / / | |
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| If dissertation proposal has been defended successfully, briefly describe your progre | ess |
| toward completing the dissertation and timeline for completing the dissertation | |
| defense. | |
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| If dissertation proposal defense has not been completed, briefly describe your progress toward completing the dissertation proposal and timeline presenting it to the committee. |
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| |
| Anticipated Graduation (semester and year): □ May □ August □ December Year: |
| Accomplishments during the academic year: Research: Please describe the research you have been involved with during this academic year. Include your work as a GA, and/or any other research experience gained this year. Please list all publications, including those published, in press, under review and in preparation, as well as all conference abstract submissions. For conference abstracts, please list the conference and indicate if they were accepted as posters/oral presentations |
| |

| Other accomplishments: | |
|-------------------------------|--|
| | |
| Advisor Comments: | |
| | |
| Doctoral student | —————————————————————————————————————— |
| Advisor/dissertation chair | Date Completed |
| GA supervisor (if applicable) | Date Completed |

Doctoral Student Checklist

| 1. | Meet with your academic advisor at the beginning of your first semester to develop a plan of study. |
|-----|---|
| 2. | Select dissertation chair and committee at the end of the first year or a minimum of 18 credit hours. The committee should consist of 4 faculty members with at least 3 being from EBE. |
| 3. | Take and pass comprehensive exam after completing the Research Methods core, Biostatistics core, Subject Matter core and Doctoral seminars (36 credit hours). |
| 4. | Write dissertation proposal and submit to dissertation committee. |
| 5. | Schedule oral defense of proposal 5 weeks after submission of proposal. |
| 6. | Complete graduate coursework. |
| 7. | Complete and submit required graduation forms in semester BEFORE you plan to graduate. |
| 8. | Check Graduate school website for dissertation submission deadlines. |
| 9. | Write and format dissertation per graduate school requirements. |
| 10 | Schedule dissertation defense and submit dissertation to committee at least 2 weeks prior to defense date. |
| 11 | . Revise dissertation per committees' suggestions. |
| 12 | Defend dissertation. Once you have successfully defended your dissertation you committee will complete and sign a Thesis/Dissertation Defense Results" form. Submit it to the Graduate Coordinator. |
| 13. | . Complete and have committee sign "Final Committee Approval Form for Electronic Thesis or Dissertation Submission" and give one signed copy to the Graduate Coordinator. |
| 14 | Make final dissertation corrections and submit the signed Dissertation approval page and one plain-paper copy of your dissertation to the Graduate School before the dissertation review deadline. |
| 15 | . Receive reviewed dissertation from the Graduate School and make all necessary changes. |
| 16 | Submit electronic copy of your dissertation to the Graduate School before the final submission deadline using the Electronic Thesis/Dissertation website. |

You are finished! CONGRATULATIONS!!