The University of Oklahoma
Hudson College of Public Health
Department of Biostatistics and Epidemiology

Doctor of Philosophy
Epidemiology

The Doctor of Philosophy (PhD) is an advanced research-oriented graduate program which requires in-depth study of and research in Epidemiology.

Summary of Required Hours:

• Total Required Hours	90 credit hours (includes maximum of 40 credit hours from Master's degree)
• Required Coursework	Minimum 28 credit hours
• Dissertation Research	22-25 credit hours

1. **Prerequisites** (15-18 credit hours):
   Students applying to the PhD in Epidemiology must have completed a Master's degree program (MPH or MS) in epidemiology or a related field with coursework in epidemiology and biostatistics. Additional consideration will be given to applicants who have completed a professional doctoral degree. Up to 40 credit hours from the Master's program may be counted toward the PhD with approval.

   Prerequisite courses include:
   - BSE 5163 Biostatistics Methods I or equivalent (3 credit hours)
   - BSE 5013 Applications of Microcomputers to Data Analysis - SAS computing or equivalent (3 credit hours)
   - BSE 5113 Principles of Epidemiology or equivalent (3 credit hours)
   - BSE 5303 Epidemiology of Infectious Diseases or equivalent (3 credit hours)
   - BSE 5363 Epidemiology and Prevention of Chronic Diseases or equivalent (3 credit hours).

   Students may take these prerequisite courses during the doctoral degree program and these courses will apply towards the 90 credit hour requirement, but will not count toward the Required (Section 2) or Elective (Section 3) credit hour requirements.

   Any MS or PhD student who has not previously completed the core MPH courses or earned an MPH degree will be required to complete an overview course in public health. At the first opportunity students should enroll in
   BSE 5033 Foundations and Overview of Public Health (3 hours).

2. **Required Courses** **37 credit hours**
   <u>Departmental Epidemiology Courses</u> (21 credit hours)
   Students are required to complete a minimum of 21 credit hours of epidemiology beyond BSE 5113, BSE 5303 and BSE 5363 (pre-requisite requirements). Epidemiology courses taken during the Master's degree program can be applied towards this 21 credit hour minimum.

The following epidemiology courses must be completed as part of the 21 credit hour requirement and may be completed during the Master's or doctoral degree:

BSE 5193 Intermediate Epidemiology	3 hours
BSE 6192 Grant Writing	2 hours
BSE 6194 Advanced Epidemiologic Methods	4 hours

Two of the following three methods courses:

BSE 5343 Methods in Infectious Disease Epidemiology	3 hours
BSE 6323 Molecular and Genetic Epidemiology	3 hours
BSE 6193 Methods in Clinical Epidemiology	3 hours

Two additional courses in epidemiology as approved by the Advisory Committee.	6 hours

Departmental Biostatistics Courses (15 credit hours)
Students are required to complete a minimum of 15 credit hours of biostatistics beyond BSE 5163 Biostatistics Methods I and BSE 5013 Applications of Microcomputers to Data Analysis. Biostatistics courses taken may be taken during the Master's degree or the doctoral degree.

The following biostatistics courses, or equivalent, are required:

BSE 5173 Biostatistics Methods II	3 hours
BSE 5663 Analysis of Frequency Data	3 hours

The following biostatistics courses, or equivalent, are suggested:

BSE 6643 Survival Data Analysis	3 hours
BSE 6663 Multivariate Biostatistics	3 hours
BSE 6563 Longitudinal Data Analysis	3 hours

Graduate College Requirement (1 hour)
The Responsible Conduct of Research (RCR) course may be completed during the Master's degree or at the first available offering during the doctoral degree program.

BSE 5111 Scientific Integrity in Research	1 hour

NOTE: Further training in RCR is required after four years from the initial course. Students who are beyond four years of their initial training are required to enroll in the Advanced RCR course at the first available offering:

BMSC 6011: Integrity in Scientific Research II	1 hour

Completion of the RCR courses will be documented in the Report of the Doctoral Advisory Conference form and in the Annual Graduate Student Progress Report.

3. Elective Courses **6 credit hours**

Students must select at least 6 hours of elective courses in epidemiology, research methods, or any topic area related to the dissertation research as approved by the Advisory Committee in addition to those listed above. Courses taken during the Master's degree program can be applied toward this six hour requirement. The following courses may not be used to satisfy this requirement: BSE 5980, 6950, and 6980.

4. **Dissertation** **22-25 credit hours**
   Students must enroll for at least 22 credit hours in Research for Doctoral Dissertation (BSE 6980). Up to 25 total credit hours in BSE 6980 may be counted toward the degree.

5. **Additional Requirements and Expectations of Doctoral Students**:
   a. Students are required, prior to initiation of doctoral research, to complete training in Responsible Conduct of Research. The training includes completion of the CITI course for Human Subjects Research (Social-Behavioral-Educational Basic module) and successful completion of a one credit course in RCR approved by the Department.

   b. Students are required to attend all departmental and College of Public Health seminars during the spring and fall semesters.

   c. Students may be enrolled part-time (minimum six credit hours in fall and spring semesters) while completing their coursework requirements but are expected to enroll full-time once they begin their dissertation research.

   d. Students are required to have a working knowledge of methods, programming, and applications of computers as used in Epidemiology prior to admission. This knowledge may be acquired by formal class work or by experience acquired before entering the program. Having completing BSE 5013 (or equivalent) with a passing grade will satisfy this requirement.

   e. Students are required to achieve a working knowledge of the biomedical sciences as they relate to human health and disease. This requirement may be satisfied in one or more areas. Any coursework needed to satisfy this requirement may be taken at this or another institution, either before or after entering the program. One example is Principles of Pathobiology (Path 6024).

   f. Tools of research are required. The purpose of the research tool is to increase research proficiency by developing competence in those skills deemed necessary for successful research performance. Such skills might include the ability to employ techniques of gathering, analyzing and/or presenting research data or reading, writing, or speaking one or more foreign languages in which there occurs significant technical publications in the student's area of research.

   g. Students must pass a general written and oral examination. Students must complete the defense of the dissertation within five years of the end of the semester within which the general examination was successfully completed. If the time expires before the dissertation is completed, the coursework must be revalidated by retaking and passing the general examination.

   h. Regardless of whether or not the doctoral dissertation is based on original data or secondary data analysis, doctoral students should have a range of experiences in primary data collection. These experiences may be gained either prior to or during the doctoral training program. Students must have a minimum of five (5) experiences, with at least one from each tier.

Experiences Involving Contacts with Research Participants:

- Questionnaire administration (interview or mailed)
- Subject recruitment, follow-up, or retention activities
- Working with the community to implement research
- Environmental, occupational or personal exposure monitoring
- Collection of measurements on study participants

Experiences Involving Data Collection:

- Medical or other record abstraction
- Biospecimen collection
- Laboratory analysis
- Staff training and certification
- Editing and coding of data as it is collected, including that associated with a systematic review of meta analysis
- Database development or management

Experiences Involving Instrument Development:

- Development and testing of study protocols or IRB applications
- Questionnaire/abstraction form design and pre-testing, including that associated with a systematic review or meta analysis
- Designing and implementing quality control activities.

The exact experiences and potential opportunities for primary data collection will be agreed upon by the students and their Advisory Committee as part of their program plan.

DOCTORAL STUDENT TEACHING REQUIREMENTS

Students are required to participate in at least 40 hours of agreed teaching activities.

Teaching experiences must be obtained in teaching epidemiology or biostatistics. The exact experiences and potential opportunities for teaching experiences should be discussed by the student and their advisor and/or advisory committee. Under the guidance of the course instructor or the faculty mentor, teaching experiences may include:

- Teaching graduate level courses in epidemiology or biostatistics
- Developing course material
- Delivering lectures
- Leading review and discussion sections
- Writing and grading homework assignments
- Writing and grading exams

Participation in teaching activities will be documented on the Annual Graduate Student Progress Report. Students are required to identify available teaching opportunities and to contact the instructor of record to arrange for their participation in the teaching activity. The total 40 hours of teaching activities may include participation in the activities listed above as well as preparation for these activities.