

# DOCTORAL PROGRAM REQUIREMENTS

1. A master's degree in either biostatistics or epidemiology, or related field, from an accredited institution, provided that the academic and experience requirements for such a degree are equivalent to those required for the Master's degree at the University of Oklahoma Health Sciences Center. Prerequisite courses not completed during the master's degree may be required as part of the doctoral coursework
2. A graduate grade point average of at least 3.5.
  - a. A student admitted with a grade point average less than 3.50 must earn at least a 3.00 grade point average, with no C's, in the initial 9 hours of graded graduate course work. The 9 hours must be courses required for the degree. It is expected these courses will be completed within one calendar year following initial enrollment. Failure to meet these criteria may result in program dismissal.
3. Written evidence of research experience, if available. These materials will be evaluated for creativity and overall quality. Special preference will be given to applicants with research experience.
4. Proof of language proficiency for international applicants: TOEFL score of 88 or above or IELTS of 6.5.
5. GRE test, taken within the last 5 years, is required for all doctoral degrees and programs.
6. Additional prerequisite requirements for the Doctoral degree in Biostatistics include:
  - a. Calculus and Analytic Geometry I. Topics covered include equations of straight lines; Conic sections; functions, limits and continuity; differentiation, maximum- minimum theory and curve stretching.
  - b. Calculus and Analytic Geometry II. Integration and its applications; the calculus of transcendental functions; techniques of integration; and the introduction to differential equations.
  - c. Calculus and Analytic Geometry III. Polar coordinates, parametric equations, sequences, infinite series, vector analysis.\
  - d. Calculus and Analytic Geometry IV. Vector calculus; functions of several variables; partial derivatives; gradients, extreme values and differentials of multivariate functions; multiple integrals; line and surface integrals.
  - e. A course in Linear Algebra

## Committee Structures for Doctor of Philosophy Students

As part of the admission process, the department faculty, in concert with the department chair, will review the candidate's file relative to research and other interests and appoint an appropriate faculty advisor who will serve as chairperson of the students' Advisory Conference Committee.

1. Advisory Conference Committee

This Committee shall:

  - a. Be appointed by the faculty advisor in concert with the student and the department chair in the first semester of the student's pursuit of the doctoral degree.
  - b. Approve the program of study.
  - c. Coordinate with the departmental faculty the compilation and administration of the student's written portion of the general examination and administer the oral portion of the examination.

- d. Submit a report to the Graduate Dean indicating whether the student passed or failed the general examination and a recommendation for Admission to Candidacy.
- e. Assist the student in the appointment of the permanent doctoral committee in the first semester following admission to candidacy. This assignment is made after the following actions have been taken by the candidate:
  - i. The students must obtain agreement from a faculty member who will direct the dissertation and act as chair of the permanent doctoral committee. The chairperson may be selected from either Biostatistics or Epidemiology depending on the major thrust of the proposed dissertation. The selection of the chair of the permanent doctoral committee may be made from among all faculty authorized by the Graduate Dean to chair doctoral committees.
  - ii. In consultation with the selected chairperson, the student will request other faculty members to serve on the permanent doctoral committee. Final approval of this committee rests with the departmental chair and the Graduate Dean.

If the student and the advisory conference committee disagree on the composition of the permanent doctoral committee, or any other matter, the conflict shall be resolved at one (1) of the following levels in the order listed:

1. The Chairman of the Department of Biostatistics and Epidemiology
2. The Dean of the Hudson College of Public Health
3. The Dean of the Graduate College

## 2. Permanent Doctoral Committee

This Committee shall:

- a. Approve the prospectus for the dissertation.
- b. Provide technical guidance in the research.
- c. Supervise, particularly through the chairperson of the permanent doctoral committee, the organization, collection of references, techniques, methods of analysis, conclusions, and the writing of the dissertation.
- d. Approve the reading copy.
- e. Approve the defense of the dissertation.

## 3. Composition of Committees

The Advisory Conference Committee and the Permanent Doctoral Committee shall each be represented by the following disciplines:

- a. Epidemiology Majors:
  - i. At least two Epidemiologists
  - ii. At least one Biostatistician
  - iii. At least one faculty from outside the Department of Biostatistics and Epidemiology
- b. Biostatistics Majors:
  - i. At least two Biostatisticians
  - ii. At least one Epidemiologist
  - iii. At least one faculty from outside the Department of Biostatistics and Epidemiology

Both the advisory conference committee and the permanent doctoral committee will consist of a minimum of five faculty members. No more than two members of the committee can lack authorization to direct a doctoral dissertation.

## General Examinations and Admission to Candidacy

A student may take the general examination when the student's advisory conference committee has determined they have completed sufficient coursework and any tools of research as described in the Committee's report. The examination tests the student's mastery of a number of related fields as well as the capacity for synthesis, sound generalizations, and critical analysis.

After completion of the Master's degree, a doctoral student is normally expected to complete all the degree requirements to take the general examination within three years of full-time enrollment after entering the Doctoral program.

The general examination will be offered annually. The department Vice Chair will schedule examination dates and times at least six weeks before the exam takes place, after consultation with eligible students, the student's Advisory Conference Committee members, and departmental faculty. Written examination questions will cover the following areas:

1. Biostatistics Majors:
  - Basic Biostatistical Methodology
  - Advanced Biostatistical Methodology
  - Biostatistical Theory
  - Epidemiological Principles and Methods
2. Epidemiology Majors:
  - Basic Biostatistical Methodology
  - Epidemiological Principles and Methods
  - Advanced Epidemiologic Methods: application of advanced epidemiologic methods to the design of one or more studies related to a designated research question.

The written portion of the general examination is prepared by the examination committee, which may be a committee of the entire departmental faculty. Individual departmental faculty will write questions that cover each of the required areas and provide these to the examination committee. The examination committee will review and coordinate with the departmental faculty the development of the student's general examination. The examination committee is responsible for the administration of the written portion of the general examination.

The faculty member who submitted the question(s), as well as other faculty, will grade the question(s) and report their evaluation to the examination committee. The examination committee will evaluate the student's overall performance and the committee chair will present the results to the departmental faculty for a decision on pass/fail or remediation. The chair of the examination committee will transmit the final decision to the student. It is the responsibility of the student's advisory conference committee to interact with the student to schedule the oral portion of the general examination or arrange the re-examination and/or remediation for those students whose performance is unsatisfactory. To proceed to the oral examination, the student must achieve an "unqualified pass" on the written examination; a majority of the examination committee must vote that the student has passed each of the components of the written examination.

If the student fails the first written examination, the Department Chair reports the failure to the Graduate Dean, and the student is allowed a second attempt. A student can fail individual components of the examination as well as the entire examination, taken as a whole. The student must repeat the components that were failed. The student

must take the second examination at the next scheduled written comprehensive examination. Failure to receive an unqualified pass on the second attempt will result in the student's termination from the doctoral program.

The student's advisory conference committee, including the committee's outside member, administers the oral examination as authorized by the Graduate College. Additional departmental faculty may take part (as non-voting members) with the approval of the chair of the advisory conference committee. A successful pass on the oral examination entitles the student to be recommended for Admission to Candidacy by the Graduate Dean and to proceed toward the dissertation. If at least two voting members dissent from a judgment that the student's performance on the oral examination is satisfactory, the advisory conference committee will be adjourned, the entire departmental faculty will consult and deliberate to decide the outcome of the oral examination. The faculty's deliberation should consider the student's performance on the written exam and their coursework. Subsequent to the discussion of departmental faculty, the advisory conference committee will reconvene for a final vote. The final authority to decide the outcome of the oral examination resides with the advisory conference committee.

## Faculty Evaluation of Student Progress

Progress of doctoral students is monitored by their major Advisor based on meetings at least bi-monthly. If a student is not making satisfactory progress in his/her doctoral program as determined by the major advisor, in consultation with the advisory/dissertation committee, the major advisor will write to the student setting forth the deficiencies and what must be done to remediate them.

The student and graduate advisor/dissertation committee chair shall complete an annual evaluation of the student's progress toward the degree. Dissertation committee members will be involved in the review for those students who have passed their comprehensive exams. The progress report will include goals and a plan of action towards degree completion. In addition, the student completes a summary of scholarly achievements during the reporting period and develops a plan for continued professional development with advisor input. The report is to be completed by the student and faculty advisor. The advisor is required to meet with the student to review and discuss the report. In addition, for students who have passed the comprehensive exams, the dissertation committee chair and other committee members are required to meet with the student to review and discuss the report.

A student may be retained in the department only so long as he/she continues to make satisfactory progress toward the degree.

## The Dissertation Prospectus

A dissertation prospectus must be approved and signed by the doctoral dissertation committee. It should include the title of the dissertation research, an abstract, a summary of the background and significance of the proposed research, specific aims, and a description of the proposed research design and methods. A complete reference list should also be included. The signed prospectus shall be filed with the department.

The prospectus is intended to be a general description of the work proposed, and review and signature by the doctoral dissertation committee represents an understanding between the student and the doctoral dissertation committee as to the conduct of the doctoral dissertation research. Substantial revisions from the prospectus that

arise during the course of the research must be reviewed and approved by the dissertation committee.