

## Duke Department of Biostatistics & Bioinformatics

### PhD Preliminary Exam Procedure

1. ***Prerequisites.*** A prerequisite for the preliminary examination (prelim) is that the student must have passed PhD theory and applied qualifying examinations.
2. ***Prelim Committee and Chair.*** The prelim committee consists of the student's dissertation committee, approved by the DGS and the Graduate School, with the dissertation advisor as the committee chair. The committee should consist of at least 4 members with majority of members (at least three) from the student's major research area and one member, designated as "minor area representative" (MAR), from outside the student's main area of research. At least two members of the committee, including the chair, must have primary or secondary faculty appointments in the B&B department. The MAR could be from another department or program, or from a different research subfield within the degree-sponsoring department or program and should not be directly involved in the student's area of research focus. A majority of the committee members must be Duke Faculty, while all committee members must have a current appointment on the Duke Graduate Faculty (whether employed by Duke or not). This committee, with all members participating in regular meetings, will determine a program of study and administer the preliminary examination. According to Graduate School Rules, this committee must be approved by the Graduate School (see attached form) at least one month before the date of the oral prelim exam (see item 6).
3. ***Pre-prelim Meeting.*** The student arranges a first meeting with the prelim committee (with all members present) to acquaint the committee with the student's likely dissertation topic. This involves a presentation followed by a discussion period during which the committee suggests areas, which the student should study in preparation for the exam. A one-page summary of the presentation should be submitted to each committee member and the DGS/DGSA no later than two days before the scheduled meeting. This meeting is *not* meant to be an examination, but rather the first opportunity for guidance by the committee for the student's dissertation research and preparation for the prelim. However, students should expect probing questions as the committee helps them identify areas of in-depth study. The committee should also discuss when the student will be ready for the preliminary examination and make a recommendation.
4. ***Written proposal distribution.*** The student submits a written proposal describing the dissertation research in an example format of an NIH/NSF postdoctoral fellowship (see attached guidelines). The document is submitted to each member of the prelim committee with a cover sheet, evaluation form and written preliminary exam format (attached). **A hard copy of the cover sheet and the document should also be submitted to the DGSA/DGS.**
5. ***Written proposal approval.*** Within two week of receiving the proposal, each member of the committee contacts the prelim committee chair to either approve the proposal or to request changes. The chair compiles the requested changes and forwards them to the student, who then resubmits a modified proposal within two week. Committee members have two week to approve the modified proposal or suggest further changes, if necessary.
6. ***Oral exam.*** Once the entire committee has accepted the written proposal, the oral exam can be held. The exam must take place while semester classes are in session, which includes exam periods. The exam must take place by the end of graduate year three (i.e., the end of third

spring term if enrolled in the program in the fall term or the end of third fall term if enrolled in the program in the spring term).

7. **Oral exam procedure.** During the oral exam, the student presents a summary of the proposal, with interruptions only for questions of clarification. Following the presentation, each committee member asks questions related to the proposal in any of the areas of in-depth study identified in the pre-prelim meeting
8. **Preliminary Exam Evaluation.** *The prelim exam should not last longer than 3 hours.* Majority of the committee must be present with student for the oral exam. After all committee members have asked their questions and the exam has concluded, the student is asked to leave the room. The committee discusses the exam, both written and oral components, and votes to either pass or fail the student. Provisional passes or postponed decisions are not allowed by Graduate School rules. Passing requires at least four affirmative votes and no more than one negative vote. If a dissertation advisor casts a negative vote, the student does not pass. In case of failure, the committee members will vote to approve a re-take with at least four affirmative votes (no sooner than 3 months later). When a decision is reached, the student is invited back into the room to receive the decision. Each committee member submits a completed evaluation form to the student and advisor(s) at the end of the meeting (see attached).
9. **Re-examination.** Should the student fail, he or she may apply, with the consent of the prelim committee and the Associate Dean of the Graduate School, for the privilege of a second examination to be taken no sooner than three months and no later than six months after the date of the first examination. The examining committee must remain exactly the same for the second examination. The committee vote must be unanimous in order for the student to pass the second examination.
10. **Post-examination presentation.** After the student has successfully passed the oral exam, the student should schedule a seminar to present the content of the dissertation proposal. This presentation will be open to the public to be held either at the student-led seminar time or at the departmental seminar time.

#### **WRITTEN PRELIMINARY EXAM FORMAT**

The application must be clear, readily legible.

1. **Title of Project.** Choose a title that is specifically descriptive, rather than general.
2. **Description.** State the application's broad, long-term objectives and specific aims. Describe concisely the research design and methods for achieving these goals. Avoid summaries of past accomplishments and the use of the first person. This description is meant to serve as a succinct and accurate description of the proposed work when separated from the application. **DO NOT EXCEED ONE PAGE.**
3. **Research Plan.** Organize Items a-e below, to answer these questions:
  - What do you intend to do?
  - Why is the work important?
  - What has already been done?
  - How are you going to do the work?

About 12 pages is recommended for Items a-e below, including figures:

- a. **Specific Aims.** List the broad, long-term objectives and what the specific research proposed in this application is intended to accomplish. **One page is recommended.**

- b. **Background and Significance.** Briefly sketch the background leading to the pre-sent application, critically evaluate existing knowledge, and specifically identify the gaps, which the project is intended to fill. State concisely the importance (and health relevance if any) of the research described in this application by relating the specific aims to the broad, long-term objectives. *Two to three pages are recommended.*
- c. **Preliminary Studies/Progress Report.** Use this section to provide an account of the applicant's preliminary studies pertinent to the application information that will help to establish the experience and competence of the investigator to pursue the proposed project. The complete references to appropriate publications and manuscripts submitted or accepted for publication may be listed, and are not part of the page limitations. *Three to five pages are recommended for the narrative portion of the Preliminary Studies/Progress Report.*
- d. **Research Design and Methods.** Describe the research design and the procedures to be used to accomplish the specific aims of the project. Describe any new methodology and its advantage over existing methodologies. Discuss the potential difficulties and limitations of the proposed procedures and alternative approaches to achieve the aims. Describe any planned simulation studies if planned. As part of this section, provide a tentative sequence or timetable for the project. Describe any data that will be used for illustration.
- e. **Literature Cited.** List all references. Each reference must include the title, names of all authors, book or journal, volume number, page numbers, and year of publication.