

## **MCDB PROSPECTUS CHECKLIST**

- In the beginning of the second year, the student, in consultation with the Thesis Advisor, must identify faculty to serve on his/her Thesis Advisory Committee (before asking faculty to be on committee).
- The Committee must consist of at least four faculty members (including the Thesis Advisor), and at least two of these Committee members (one of whom may be the Thesis Advisor) must hold a primary or secondary appointment in the MCDB Department.
- Advise Marrisa DeLise of Committee Members.
- Pre-Prospectus meeting. (6-8 weeks in advance of qualifying exam). Student should submit brief (1,000 word) outline of proposed plan to all committee members. Set up a Pre-prospectus meeting.
- This meeting will be approximately one hour in which the student will give a 15-20 minute oral presentation outlining the plans for dissertation research - including background information, any relevant results that the student has already obtained, the goals of the project, and the methods to be employed.
- Set up qualifying exam meeting as soon as possible as it must be held in the Fall semester of your second year. Faculty need notice-you should schedule 3-4 months in advance.
- Notify Marrisa DeLise of the date of the qualifying exam as soon as it is scheduled.
- In advance of qualifying exam, the student must submit to the committee members the Prospectus (5000-7000 words in length) and reading lists created in consultation with committee members.

### **PROSPECTUS PROPOSAL**

The proposal should be organized into the following sections:

1. Cover page. The cover page must include
  - a. the title of your project,
  - b. your name,
  - c. the name of your Thesis Advisor,
  - d. the names of the members of the Thesis Committee,
  - e. the name of the Chairperson of the Committee, and
  - f. the date, time and place of the meeting.
2. Abstract. The student should briefly outline the background behind the project, indicate the question/problem being addressed, and summarize succinctly the research proposal. The abstract should not exceed 250 words.
3. Background and Significance. This section should provide a general introduction to the area of research, and explain the rationale for the proposed research. It should also provide a context for the proposed experiments and describe the experimental system in a manner intelligible to a non-specialist. It should include a critical evaluation of the relevant literature and a clear explanation of how the proposed research will advance knowledge in the field. This section should represent approximately one quarter of the overall proposal (~ 1,500 words).
4. Specific Aims. The explicit goals of the proposal should be listed. Specific aims should be numbered for future reference. Each specific aim should be summarized in one or two sentences

(~200-300 words overall).

5. Preliminary Data (optional). Any relevant data and their interpretation should be summarized (~1,000 words or less).
6. Experimental Design and Methods. This section should be subdivided with one section for each of the Specific Aims stated, with the sub-sections numbered accordingly. For each Specific Aim, there should be a description of
  - a. the goal and rationale,
  - b. proposed experiment(s),
  - c. the technique(s) to be employed,
  - d. anticipated results and interpretation, and
  - e. possible caveats and alternative approaches. At the end of the Experimental Design and Methods section, a timetable should be provided. If there are multiple experiments that can be carried out in parallel, you should indicate your priorities. If the sequence of events depends on the outcome of certain experiments, it may also be useful to include a flow chart.References, including titles, for any papers cited in the proposal.
7. Figures (optional, but desirable).
8. Tables (optional).

### **QUALIFYING EXAM INFORMATION**

1. Exam approximately **2** hours.
2. The first half of the Exam will test the student's knowledge of the assigned reading topics. The questions asked should test the student's
  - a. knowledge of the "facts" of the field,
  - b. understanding of the methods used to arrive at these conclusions, and
  - c. ability to read the literature critically. It is the responsibility of the Committee Chair to ensure that the student is questioned in each of the topic areas designated at the time of the Pre-Prospectus meeting.
3. The second half of the Exam will explore in depth the proposed plan of research described in the Prospectus. The student will begin with a brief (no more than 15 minutes) presentation, outlining the proposed research. Questions during and following the presentation should bear in mind that the purpose of the Qualifying Exam is to test the student's ability to
  - a. identify interesting and important questions,
  - b. plan a project with well-defined goals and carefully considered experimental strategies,
  - c. anticipate potential problems and devise alternative approaches,
  - d. demonstrate a clear understanding of where the proposed research fits into the "big picture".
4. After the questioning period, the Chair will ask the student and the Thesis Advisor to leave the room while the Committee deliberates. The Chair of the Committee, in consultation with other Committee members, should fill out the attached evaluation form.
5. Following the Exam, the evaluation form should be delivered to the Graduate Registrar (Marrisa DeLise), who will distribute the completed form to the student, Thesis Advisor, all Committee Members and the Director of Graduate Studies.

## MCDB STUDENT QUALIFYING EXAM COMMITTEE REPORT

Name of student: \_\_\_\_\_ Year of study: \_\_\_\_\_

Name of thesis advisor: \_\_\_\_\_ Date of meeting: \_\_\_\_\_

Committee members in attendance: \_\_\_\_\_

**Please assess the abilities/performance of the student in each of the areas listed below by circling the appropriate descriptor.**

1. Presentation style and clarity of written proposal:  
unacceptable    fair    good    very good    excellent

If an area of concern to the committee, please comment briefly below:
2. Quality and clarity of oral presentation:  
unacceptable    fair    good    very good    excellent

If an area of concern to the committee, please comment briefly below:
3. Scientific merit of proposed research, importance of problem, novelty, probability of success:  
unacceptable    fair    good    very good    excellent

If an area of concern to the committee, please comment briefly below:
4. Thinking deeply/critically about research project, seeing the "big picture":  
unacceptable    fair    good    very good    excellent

If an area of concern to the committee, please comment briefly below:
5. Understanding of relevant techniques/approaches; underlying mechanisms, strengths and limitations:  
unacceptable    fair    good    very good    excellent

If an area of concern to the committee, please comment briefly below:
6. Anticipating potential technical problems and other reasons why the project might not work:  
unacceptable    fair    good    very good    excellent

If an area of concern to the committee, please comment briefly below:

7. Knowledge of the scientific literature in the topic areas (please fill in blanks) assigned at the pre-prospectus meeting:

Topic 1: \_\_\_\_\_  
unacceptable      fair      good      very good      excellent

Topic 2: \_\_\_\_\_  
unacceptable      fair      good      very good      excellent

Topic 3: \_\_\_\_\_  
unacceptable      fair      good      very good      excellent

Topic 4: \_\_\_\_\_  
unacceptable      fair      good      very good      excellent

Topic 5: \_\_\_\_\_  
unacceptable      fair      good      very good      excellent

If an area of concern to the committee, please comment briefly below:

**Provide additional comments (e.g., areas where student should aim for improvement), if desired.**

**Committee Recommendation (please check):**

\_\_\_\_\_ Pass

\_\_\_\_\_ Fail

\_\_\_\_\_ Decision Pending Additional Work, including one or more of the following:

\_\_\_\_\_ Student rewriting proposal

\_\_\_\_\_ Student retaking oral exam

\_\_\_\_\_ Student writing paper(s) on specified topic(s) (please specify)

\_\_\_\_\_ Student reading literature on specific topic(s), then meeting with individual committee member(s) (please specify topics and committee members)

\_\_\_\_\_ Other (please specify)

**Specify time frame for completion of any additional work.**

**Name of Committee Chair** \_\_\_\_\_

**Signature of Committee Chair** \_\_\_\_\_