**Ph.D. Comprehensive Matriculation Exam**

The following policy and procedures will govern the comprehensive examination. Refer to Figure 1 for an illustration of this process.

**Part I: In-house written and oral exam**
The in-house exam consists of writing over (1) theory, methods, and statistics, (2) the student’s area of specialization and core content, and (3) the student’s collateral area. The advisor is responsible for collecting questions from all five committee members, constructing the exam, and getting approval for the final version from available committee members. It is expected that the written exam will take the student no longer than 8 hours (e.g., two half-days or one full day) to complete. During the oral defense, committee members may ask the student to defend his or her written answers and also probe for understanding of the questions administered but not chosen during the written exam.

If the student does not pass the in-house exam, the committee will recommend remedial measures, in writing, for the student to take. If the student is required to retake the exam, the student can retake the in-house exam (with new questions) no sooner than 12 weeks after the failed first attempt. Not passing the in-house exam a second time automatically prevents candidacy. The D-3 form indicating this is sent to the Graduate School.

When the student completes the in-house exam, an oral exam will be scheduled within 2 weeks. Failing the oral exam will result in dismissal from the Ph.D. program. Satisfactory performance on the oral exam, will allow the student to progress to phase II.

**Part II: Grant proposal and oral exam**
Using an extended version of the NIH RO3 grant application format (see appendix A), students are to prepare a grant proposal for step two of the comprehensive exam.

**Timeline**
A pre-proposal is to be presented to the supervisory committee within 30 days after the completion of the in-house written exam and oral defense. Once the committee approves the pre-proposal, the student will begin writing the grant proposal, and they have 60 days to complete it and submit it to their committee.

**The pre-proposal:**
The grant proposal should result in a thematic and systematic plan that could be followed in the first years in a research setting after completion of the doctoral degree. To this end, a three-to-five page double-spaced pre-proposal will be presented to the doctoral committee. The pre-proposal is to include: (a) an abstract of the expected direction the student predicts
his or her grant to take (limit of 1 page); (b) a description of the area of study in which the proposal will focus; (c) a justification of the importance of this line of research; (d) a draft-level statement of the specific aims and related research questions and/or hypotheses that will be addressed in the proposal; and (e) a description of the basic research design. A reference list should also be attached. Study measures or interview protocols may be provided as appendices. After submitting the pre-proposal, a meeting is scheduled with the doctoral committee to provide feedback to the student and to decide whether the pre-proposal is approved by the committee. If the pre-proposal is approved, the student begins writing his/ her grant proposal. If the pre-proposal is not approved, the student must revise the pre-proposal based on committee feedback and schedule a new meeting. The pre-proposal is to be included with the full grant proposal as a part of the appendices.

**Grant Proposal:**
The grant proposal is to span 2 years and focus on either (a) multiple studies (up to two) that build on each other or (b) a longitudinal study that includes substantive and unique analyses of each wave of data. It is expected that the study will be theoretically based and will include relevant literature as part of the proposal’s justification. The sampling, procedures, methods, design, and analyses are to be clearly articulated. In addition, the proposal is to include copies of the measures to be used and a timeline, as well as a budget and a budget justification. Human Subjects guidelines are to be followed as per the specific grant instructions and the Internal Review Board (IRB) section should be completed, although the student is not required to actually submit the proposal for IRB approval. See Appendices B & C for a succinct outline and thorough instructions.

The options that may be taken by the committee following the submission of the first grant proposal are as follows:

1. **Accept** the grant proposal; student begins the dissertation process.

2. **Require** that the student revise and resubmit the grant proposal within 60 days.

The options that may be taken by the committee following the submission of the revised grant proposal are as follows:

1. **Accept** the grant proposal; student begins the dissertation process.

2. **Require** that the student begin the process over by submitting a proposed outline for a grant proposal on a NEW topic deemed appropriate by the committee. Once the committee approves the proposal, the student again has a maximum of 60 days to complete the proposal.

The options that may be taken by the committee following the submission of the NEW grant proposal are as follows:
(1) **Accept** the grant proposal; student begins the dissertation process.

(2) **Require** that the student revise and resubmit the NEW grant proposal within 60 days. This will be the FINAL revision/resubmission.

The options that may be taken by the committee following the submission of the final revised, NEW grant proposal are as follows:

(1) **Accept** the grant proposal; student begins the dissertation process.

(3) **Not accept** the grant proposal, which automatically prevents candidacy and results in filing the D-3 form with the Graduate School, indicating that the student did not pass. The student is dismissed from the PhD program.

A student may experience circumstances that make it difficult to finish his or her comprehensive exam within this time line (e.g. accident, severe illness). In these rare circumstances, the student and the committee chair may apply for an extension by submitting a written request that (a) details the reasons for an extension and (b) proposes a new deadline to the Director of Graduate Studies and their committees.

**Questions that arise about Grant Proposal:**

It is conceivable that students would normally consult with individuals with in-depth knowledge on certain issues while writing a proposal if it were actually being submitted to a federal agency. However, for the comprehensive exam, the grant proposal is to reflect solely the efforts and abilities of the individual student. Although students are allowed to consult their committee about issues that arise while writing their proposal, this is to be done at the general rather than the specific level. Consultation about the proposal is limited to these sources and discussion with other graduate students.

**Admission to Candidacy.** After students pass both phases of the comprehensive examinations, the student will apply to the Division of Graduate Studies for admission to candidacy by completing the D3 form. With ABD status the student will complete a proposal for the dissertation project. The dissertation proposal shall be submitted to the student’s committee for review approximately 90 days after passing the comprehensive exam. The dissertation proposal should include a comprehensive and pertinent review of the literature, statement of the problem, the purpose of the proposed study, description of the research design, and discussion of the specific means by which the data will be analyzed. Subsequently, the dissertation committee will meet to evaluate, request revisions to, and approve the student's dissertation proposal.
HDFS Comprehensive Exams Timeline*

In-House Exam → Orals
- Pass
  - 30 days
  - 2 weeks
- Fail
  - Minimum 12 weeks
  - Second Attempt

Pre-Proposal → Pre-Proposal Meeting
- Pass
  - 30 days
  - 2 weeks
- Fail
  - Revise Pre-proposal
  - 2 weeks

Pre-Proposal Meeting → Grant Proposal
- Pass
  - 60 days
  - Pre-Proposal Meeting
- Fail
  - Revise Grant
  - 2 weeks

Grant Proposal → Grant Meeting
- Pass
  - 60 days
  - Grant Meeting
- Fail
  - Revise Grant
  - 2 weeks

Grant Meeting → Grant Meeting
- Pass
  - 60 days
  - Grant Meeting
- Fail
  - Revise Grant
  - 2 weeks

Admit to Candidacy (submit D3 form)

*Graduate students who do not meet the deadlines outlined in this handbook will be deemed to be making insufficient academic progress. See page 11 of the handbook for guidelines about making satisfactory progress.
Comps Grant Proposal Format

Start the Proposal with an abstract of not more than 150 words, typed on its own page. Then, include all of the following sections, using the heading listed in bold type. Sections A-D (the Research Plan) must be done within 10 single-spaced typed pages (Arial, 11 point font; 1” margins top and bottom, .9” margins left and right).

A. Specific Aims

B. Background and Significance

This is the literature review that provides a rationale for this proposed research project.

C. Preliminary Studies

Your Background and Experience (if applicable).

D. Research Design and Methods

E. Human Subjects

Include all sub-sections, writing “not applicable” as necessary.

Participants

Potential Risk

Recruitment and Informed Consent

Protection of Human Subjects against Risk

Potential Benefits of the Proposed Research

Women and Minority Inclusion

Inclusion of Children

G. References

Use APA, sixth edition format

You may have Appendices if you want to include examples of research instruments, statistical formulas, or other materials that will help readers understand the proposal.
Budget Justification

Maximum budget is $100,000 for 2 years or $50,000 for one.

Personnel (salaries and wages):
Consultation costs
Equipment:
Supplies
Participant Support:
Travel:
Total Budget Request, Year 1:

Personnel (salaries and wages):
Consultation costs
Equipment:
Supplies
Participant Support:
Travel:
Total Budget Request, Year 2:

NOTE: See appendix C for further suggestions in writing your budget justification.

Proposed Timeline
Writing Your Grant Application
(adapted from: http://grants.nih.gov/grants/writing_application.htm)

Introduction
Writing a grant application is a major undertaking. The following guidance may assist you in developing a proposal that allows your committee to better evaluate the science and merit of your ideas.

Get Prepared
To ensure efficient and thorough completion of your grant proposal, consider taking the following preliminary steps:

- Review the grant instructions for important information on the process and guidance on preparing specific sections of the proposal.
- Prepare an outline following the proposal framework and structure described in the application guide.
- Develop a timeline. Be realistic about the time it can take to write and revise the proposal.

Is Your Idea Original?
- Check the literature to verify that the exact project you are considering has not been done before. Search the literature and the NIH RePORT (Research Portfolio Online Reporting Tools) database to minimize overlap with similar studies.
- Carve out a niche that will allow you to significantly advance knowledge in your respective field.

Refine Your Ideas
- Generate a hypothesis.
- Make sure your specific research aims can be accomplished within the proposed time and resources.

What to Know Before You Start Writing the Research Proposal

1. Significance. Does this study address an important problem? If the aims of the application are achieved, how will scientific knowledge or clinical practice be advanced? What will be the effect of these studies on the concepts, methods, technologies, treatments, services, or preventive measures that drive this field?
2. **Approach.** Are the conceptual or clinical framework, design, methods, and analyses adequately developed, well-integrated, well-reasoned, and appropriate to the aims of the project? Does the applicant acknowledge potential problem areas and consider alternative tactics?

3. **Innovation.** Is the project original and innovative? For example, does the project challenge existing paradigms or clinical practice? Does it address an innovative hypothesis or critical barrier to progress in the field? Does the project develop or employ novel concepts, approaches, methodologies, tools, or technologies for this area?

**Developing Your Research Plan**
The research plan describes the proposed research, stating its significance and how it will be conducted. Remember, your application has two audiences: the majority of reviewers who will probably not be familiar with your techniques or field and a smaller number who will be familiar.

- All reviewers are important to you because each reviewer gets one vote.
- To succeed in peer review, you must win over the assigned reviewers. They act as your advocates in guiding the review panel's discussion of your application.
- Write and organize your application so the primary reviewer can readily grasp and explain what you are proposing and advocate for your application.

The research plan component of the application guide includes the following four sections:

- **Specific Aims:** what you intend to do
- **Background and Significance:** why the work is important
- **Preliminary Studies:** studies you may have completed on a relevant topic (e.g., pilot studies)
- **Research Design and Methods:** how you are going to do the work

Specific elements must be included in the research plan. There are page limits for the key sections. You may not exceed a total of 10, single spaced pages for the four sections of the research plan. There is no requirement that all 10 pages allotted be used. All tables, graphs, figures, diagrams, and charts are included within the page limits. Be sure to follow any page limitations specified.

**Specific Aims**
A strong grant application is driven by a strong, solid hypothesis with clear research objectives. The specific aims are a formal statement of the objectives and milestones of the research project towards testing the hypothesis. Consider whether the specific aims are logical and achievable. List your aims and then what you'll do to support each aim. Keep in mind that your study must support your aims, and your aims are the test of your hypothesis.

At its core, the typical grant application has a testable hypothesis in an area of high interest. It includes a concise series of specific aims that address the central hypothesis. Consider
whether the aims address interesting and significant issues and whether they are hypothesis-based. The purpose of the Specific Aims section is to clearly and concisely describe what the proposed research is intended to accomplish.

Specific aims should:
- Include specific research objectives
- Be hypothesis-based
- Be obtainable within the proposed timeframe
- Fit together in an overall framework
- Be well-focused rather than broad and diffuse
- Limited to one page.

**INSIDER TIP:** State a clearly-defined hypothesis. Make sure that the proposed specific aims will directly test your hypothesis.

**Background and Significance**
The Background and Significance section states the research problem, including the proposed rationale, current state of knowledge, and potential contributions and significance of your research to the field.

Critically evaluate existing knowledge, and specifically identify the gaps that the project is intended to fill. Explain why the literature about your research leads you to think this topic needs study. This should not be a thesis, but should provide information that directly pertains to the scientific need for your project. Make sure the significance of the topic is explicitly stated. Include sufficient justification for the significance of the problem and a rationale for the proposed studies. State how scientific knowledge or clinical practice will be advanced if the aims of the application are achieved. Describe the effect of these studies on the concepts, methods, technologies, treatments, services or preventative interventions that drive this field.

**Tips:**
- Show that you have critically evaluated existing knowledge, including background literature and relevant data.
- References should reflect up-to-date knowledge of the field.
- Specify existing gaps that the project is intended to fill.
- Identify controversies that the project is designed to resolve.
- Discussion should convey the importance and relevance of the research aims.
- Highlight potential impacts.
- Highlight why research findings are important beyond the confines of the specific research project. For example, to demonstrate significance, address how research results can be applied.
- Two to three pages are recommended for the Background and Significance section.
INSIDER TIP: The “Background and Significance” section should thoroughly describe the literature, particularly any scientific controversies in the field, yet should support your views and hypothesis. Make sure that you have identified key references.

Research Design and Methods

Use this section to describe how you plan to carry out the research. Your research methods should relate directly to the aims you have described. This section is critical for demonstrating that the applicant has developed a clear, organized and thoughtful study design that tests the central hypothesis. It is NOT a list of recipes for methods, experiments and data collection.

Describe any novel concepts, approaches, tools, or technologies for the proposed studies. Discuss the potential difficulties and limitations of the proposed procedures and alternative approaches to achieve the aims. As part of this section, provide a tentative sequence or timetable for the project.

Tips:

- Should provide an overview of the proposed design and conceptual framework.
- Study goals should relate to proposed study hypotheses.
- Include details related to specific methodology; explain why the proposed methods are the best to accomplish study goals.
- Describe any novel concepts, approaches, tools or techniques.
- Include details of how data will be collected and results analyzed.
- Consider required statistical techniques.
- Include proposed work plan and timeline.
- Consider and discuss potential limitations and alternative approaches to achieve study aims.
- Keep in mind that a carefully developed research plan will also be reflected in a realistic and well-justified budget for the project, whether it is a modular or non-modular budget.

INSIDER TIP: Set realistic goals for what you expect to accomplish with the budget and within the project period. Be clear about the methods and experimental design you will use. Be clear in describing the experimental details of what you are describing. Avoid proposing experiments based on general observations or that are correlative.
Preparing Budget Justifications

The Budget Justification section should provide information on why costs are necessary for the proposed project and how they are calculated. The following are sample items that might be included.

A. Salaries and Wages
1. Name
2. Degree(s)
3. Title
4. Time commitment
5. Duties and responsibilities in relation to the program goals and objectives

B. Consultant Costs
1. Name of consultant (if known)
2. Organizational affiliation (if applicable)
3. Nature of services to be rendered
4. Number of days of consultation
5. Expected rate of compensation
   a. Hourly or day rate
   b. Other – travel, per diem, other related expenses

C. Equipment
1. Description
2. Quantity
3. Unit cost
4. Justification for the use of each item related to specific program objectives:
5. how the equipment will enable project personnel to fulfill the objectives of the project

D. Supplies
1. Item description
2. Quantity
3. Unit cost
4. Total amount

E. Travel
1. Purpose of trip
2. Name/position of traveler
3. To the extent possible, itemize per person travel costs: airfare, lodging, meals, car rental, parking, mileage, registration fees, etc.

4. Number of trips

5. Total costs

F. Other
This category contains items not included in the previous budget categories. Individually list each item requested and provide appropriate justification related to the program objectives. Example items might include long-distance toll calls, copy costs, tuition costs, etc.

Additional Elements Required in a Grant Proposal
The following elements need to be included in the grant proposal as appropriate.

- **Appendix Materials**
  The Appendix may not be used to circumvent the page limitations of the Research Plan. Essential information should be included within the body of the grant application. The appendices should contain supportive or supplemental information.

- **Bibliography & References Cited**
  Provide a bibliography of any references cited in the Research Plan. Use APA style.

- **Inclusion of Women, Minorities and Children in Research**
  Reviewers will assess the adequacy of plans to include subjects from both genders, all racial and ethnic groups (and subgroups), and children, as appropriate, for the scientific goals of the research will be assessed. Plans for the recruitment and retention of subjects will also be evaluated.

- **Protection of Human Subjects from Research Risk**
  Applicants must assure the committee that all human subjects are protected. Reviewers will assess the potential risk to human subjects in proposed research and evaluate what protections are in place to guard against any research-related risk.

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**Important Writing Tips**
The instructions require that materials be organized in a particular format. Reviewers are accustomed to finding information in specific sections of the application. Organize your application to effortlessly guide reviewers through it. This creates an efficient evaluation process and saves reviewers from hunting for required information.

Think like a reviewer. A reviewer must often read 10 to 15 applications in great detail and form an opinion about each of them. Your application has a better chance at being successful, if it is easy to read. Make a good impression by submitting a clear, well-written, properly organized application.

Start with an outline following the suggested organization of the application.

Be complete and include all pertinent information.

Be organized and logical. The thought process of the application should be easy to follow. The parts of the application should fit together.

Write one sentence summarizing the topic sentence of each main section. Do the same for each main point in the outline.

Make one point in each paragraph. This is key for readability. Keep sentences to 20 words or less. Write simple, clear sentences.

Before you start writing the application, think about the budget and how it is related to your research plan. Remember that everything in the budget must be justified by the work you’ve proposed to do.

Be realistic. Don’t propose more work than can be reasonably done during the proposed project period. Make sure that the budget is reasonable and well-justified.

Capture the reviewers’ attention by making the case for why your research should be funded. Tell reviewers why testing your hypothesis is worth money and why you are the person to do it. Be persuasive.

Include enough background information to enable an intelligent reader to understand your proposed work.

Use the active, rather than passive, voice. For example, write "I will develop an experiment," not "An experiment will be developed."

Use a clear and concise writing style so that a non-expert may understand the proposed research. Make your points as directly as possible. Use basic English, avoiding jargon or excessive language. Be consistent with terms, references and writing style.

Spell out all acronyms on first reference.

Use sub-headings, short paragraphs, and other techniques to make the application as easy to navigate as possible. Be specific and informative, and avoid redundancies.

Use diagrams, figures and tables, and include appropriate legends, to assist the reviewers to understand complex information. These should complement the text and be appropriately inserted. Make sure the figures and labels are readable in the size they will appear in the application.

Use bullets and numbered lists for effective organization. Indents and bold print add readability. Bolding highlights key concepts and allows reviewers to scan the pages and retrieve information quickly. Do not use headers or footers.
- Identify weak links in your application so the application you submit is solid, making a strong case for your project.

**Proofreading and Final Edits**

- Allow sufficient time to put the completed application aside, and then edit it from a fresh vantage point. Try proofreading by reading the application aloud.
- Have zero tolerance for typographical errors, misspellings, grammatical mistakes or sloppy formatting. A sloppy or disorganized application may lead the reviewers to conclude that your research may be conducted in the same manner.
- Prior to submission to the committee, perform a final proofread of the entire grant application.