Revised Qualifying Exam proposal:

*Prepared by Ana Maria Castejon, Hamid Omidian*

*Committee members: Ana Castejon, Hamid Omidian, Luigi Cubeddu, Syed Rizvi and Richard Finkel*

A. **WHY DO WE NEED TO REVISE THE CURRENT POLICY?**

There’s no question that doctoral students must possess both a grasp of scientific fundamentals and solid research skills to grow into a world-class scientist, academic, or research.

After successfully completing their coursework, PhD students are evaluated in all courses taught in the program during the qualifying exam (current). Here are some of the issues that we have identified with the qualifying exam:

a. **In terms of the Objective and the Exam**
   i. 50 % or more students are failing the qualifying exam as it now stands.
   ii. Students have shared significant concerns about the current qualifying exam and the way we evaluate them.
   iii. Have we been able to evaluate the students’ ability in integrating their knowledge to solve a real problem? We failed to accurately evaluate the ability of students to integrate their knowledge. For instance, students have successfully passed certain courses but then failed the same courses in the qualifying exam.
   iv. Do we need all these HPD core courses to be an *essential* part of the comprehensive exam? While some courses are crucial for one track, their relevance may not be as critical in others.
   v. HPD core courses and track specific courses have the same weight in the qualifying exam.
   vi. We are clearly preparing experts in one specific track. The courses in this track are significantly relevant to the student’s research abilities.
   vii. We have a few elective courses that are as important as HPD core courses if not more, not included in the writing section though.
   viii. Is our grading appropriate? For the specific track courses we use numerical grading, however the HPD core courses have been evaluated by voting.

B. **WHAT WE SUGGEST:**

a. **Objective:**
   i. Evaluate the ability of the graduate student to integrate the knowledge he/she acquired and to apply that knowledge to research questions.

b. **Format:**
   i. This exam consists of writing and oral sections of an NIH (R21) proposal evaluated by a qualifying exam committee.

c. **Qualifying Exam Committee**
   i. The faculty advisor and the student will suggest the Chair of the qualifying exam committee; the Chair will then appoint other members. The Chair can be a faculty or an administrator involved in the PhD graduate program. The committee will be composed of the following voting members:
      1. Faculty advisor
2. One professor teaching HPD core courses
3. Two professors teaching specific track courses
4. An external examiner

d. Writing Section:
   i. A typical NIH proposal for the writing section
      1. NIH proposal writing is practiced in other institutions.
      2. NIH proposal has a specific research objective, a real research problem.
      3. Students would benefit from exercising this relevant task that they would more likely be conducting as scientists later.
      4. The student has no choice but to integrate his/her knowledge to write such proposal, entirely consistent with our objective.
      5. The NIH proposal can be related to the student’s PhD thesis or a different research problem within the area of interest.
      6. Student submits the proposal in writing.
      7. The student writing is circulated among qualifying exam committee members well in advance.
         a. Evaluation:
            i. Students’ NIH writing proposal is evaluated by his/her qualifying exam committee members.
            ii. Committee members are required to address their concerns openly with all committee members and the chair. The committee will meet, discuss the comments, evaluate the comments, prepare list of applicable comments before passing them to the student.
            iii. Comments and concerns passed by the committee must be addressed by the student, and included in his/her writing draft.
            iv. Student submits the revised writing draft.
            v. The NIH revised writing proposal is reevaluated by the committee members.
            vi. Student writing proposal will be finally evaluated according to the following rubric:

   ii. Pass with grading score of 90-100: Excellent, no comment.
   iii. Pass with grading score of 80-89: Committee shares some minor concerns and ways of improvement for the writing section; student is encouraged to include those comments into the writing proposal.
   iv. Conditional Pass with grading score of 70-79: Student is obligated to include and address comments of the qualifying exam committee in his/her proposal. Student has a minimum of 2 weeks and maximum of 4 weeks to include and address the comments received from the committee chair, the revised proposal will be reevaluated again to determine if the student has passed the written section. If the grade is still not above 80, the student has a second opportunity to readdress the comments from the committee. If the student fails for the second time, he/she will be falling into fail status as described in section “v”.
   v. Fail with grading score of <70: Student will be eligible to take the written exam for a second time. If a student fails the second time, his/her case will refer to the Graduate Committee for Policies and Procedures.
<table>
<thead>
<tr>
<th>Category</th>
<th>Max %</th>
</tr>
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<tbody>
<tr>
<td><strong>Summary and title</strong></td>
<td>10</td>
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<tr>
<td><strong>Background and introduction</strong></td>
<td>10</td>
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<tr>
<td><strong>Significance</strong></td>
<td>10</td>
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<tr>
<td><strong>General and specific aims, and hypothesis</strong></td>
<td>20</td>
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<tr>
<td><strong>Research design and methods</strong> (equally weighed):</td>
<td>25</td>
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<tr>
<td>- Rationale for Aim (brief)</td>
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<tr>
<td>- Methods for Aim</td>
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<tr>
<td>- Anticipated Outcomes</td>
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<td>- Data Analysis</td>
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<td>- Justification for IACUC or IRB (if applicable)</td>
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<td><strong>Challenges, and resolution to challenges</strong></td>
<td>10</td>
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<td><strong>Writing style</strong></td>
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<td><strong>Budget and timeline (using an NIH format preferably R21)</strong></td>
<td>5</td>
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<tr>
<td><strong>Total</strong></td>
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e. **Oral Section:**
   i. Student is informed of passing the writing section.
   ii. Student has minimum two weeks and a maximum of three months to prepare for an oral presentation of his/her revised NIH proposal.
   iii. Student’s NIH proposal is presented to the NSU community. Care must be taken for presentations of intellectual property nature.
   iv. Student has 40 minutes to present the proposal.
   v. The session is open to the NSU community for questions for at least 30min.
   vi. Student is required to attend a closed session composed of his/her qualifying exam committee members.
   vii. The session opens to questions. Questions can range from very specific and related to the writing proposal to general questions that include relevant topics covered throughout the program.
   viii. Only committee members vote.
   ix. Student passes the oral section as outlined in section “f”.
f. Outcomes
   i. The oral presentation will be evaluated according to the following rubric:

<table>
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<tr>
<th>Category</th>
<th>Max %</th>
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<tbody>
<tr>
<td>Presentation</td>
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<tr>
<td>Answer questions *</td>
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<tr>
<td>- Related to the topic presented</td>
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<td>- Relevant questions from their coursework</td>
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<tr>
<td>- Critical thinking</td>
<td></td>
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<tr>
<td>Total</td>
<td>100</td>
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*Committee members are encouraged and expected to choose questions within the scope of the proposal, however the student may expect questions outside of the scope of his/her proposal.

   ii. Pass with grading score >70 out of 100
   iii. Conditional pass: 70-79
        1. Student may be asked to take a course or present an oral seminar or write a report related to the deficient area at the discretion of the committee.
   iv. Fail with grading score of <70 out of 100.
        1. Committee will decide on remediation.

   g. Outlier grading:
      a. Any outlier grading submitted by the members of the qualifying exam will be accepted if it’s within ± 2 standard deviations of the average grading.