

PHARMACOLOGY DEPARTMENT GUIDELINES
for the
ADVANCEMENT TO CANDIDACY EXAM

Revised, January 2023

THE ADVANCEMENT TO CANDIDACY EXAM comprises two parts: a grant-style proposal and an oral examination/defense of that document. Five Examination Committee members selected by you and your mentor will evaluate both parts of the exam. The Graduate Committee will make the final decision concerning each student's eligibility for Advancement to Candidacy in the Ph.D. program. Below are some guidelines to help you and your mentor better understand the Advancement to Candidacy process.

TOPIC:

You will work with your mentor to select a topic for the Advancement to Candidacy Exam. The topic may or may not be related to your Ph.D. thesis.

COMMITTEE MEMBERS:

The Examination Committee will include **five members**, to be selected as follows:

- **Three members of the Pharmacological Sciences Training Grant.** You and your mentor, with the approval of the Graduate Committee, will select these members. A list of PSTG mentors is available on the Pharmacology Department website.
- **Two members of the Graduate Committee.** The Graduate Committee will appoint these members and one of them will serve as Chair of the Examination Committee. You may suggest which two members you and your mentor think are most appropriate to review your proposal, but the Graduate Committee will make the final decision.

Members of the Graduate Committee:

- **Doug Bayliss**, 50009A Pinn, 982-4449, DAB3Y
- **Mark Beenhakker**, 5017 Pinn, 243-8497, MPB5Y
- **Michelle Bland**, 5213 Pinn, 924-2378, MLB2EG
- **Bimal Desai**, 5026B Pinn, 243-0850, BND6N
- **Thurl Harris**, 5221B Pinn, 924-1584, TEH3C, *Director of Graduate Studies*
- **Kevin Lynch**, 5227B Pinn, 924-2840, KRL2Z

- Examination Committee members need not serve on your future PhD Committee. **Your mentor may not be one of the Examiners chosen above.**

WRITTEN PROPOSAL:

The document will be in **grant format**; it should be typed using **11 pt Arial** and **single line spacing**. It must be **10 pages** in length **including figures, excluding references** (try to keep the reference list under 50, if you can). The proposal should follow NIH guidelines for predoctoral NRSA fellowships.

The proposal will include **2-3 Specific Aims** and will follow the general NIH proposal guidelines described below. The Examination Committee understands that an initial version of your proposal (e.g. Aims 1 & 2) may have received substantial feedback during a formal BIMS writing course and/or from your PI.

However, the final aim of your proposal should be **independently conceived and written**, and will specifically test an impactful, far-reaching hypothesis that includes an ambitious set of experiments. Students are encouraged to include experiments or techniques that are outside of their lab's area of expertise for this aim. Thus, the final aim will test the student's ability to independently develop a set of experiments that will transform their field; the final aim will not be penalized for being too ambitious.

The Examination Committee will receive the final proposal no fewer than **six weeks** prior to the *Oral Defense* date. **Two weeks** after receiving the final proposal, the Examination Committee will provide the student with formal feedback in the form of standard, NIH proposal reviewer comments. Reviewers will use the Candidacy Exam Reviewer Template to submit their feedback to the Exam Chair. The comments will address the following aspects of the proposal: (1) Overall Impact, (2) Significance, and (3) Research Strategy. In preparation for the *Oral Defense* the student will provide the Examination Committee with both (1) a one-page "Introduction" detailing changes made to the revised proposal, and (2) the revised proposal. All revision work must be performed by the student independently of their mentor. Please clearly indicate any substantial changes made in the revised document (e.g., by underlining, changing font color, etc.). The Examination Committee will receive the Introduction and revised proposal no fewer than **seven days** prior to the *Oral Defense*.

Proposal Guidelines

1. **Specific Aims** (not to exceed 1 page)
 - Abstract summarizing rationale (1-2 paragraphs)
 - **Specific Aims:**
 - **Aim 1-3: declarative phrase or question**
 - 2-3 lines listing the experimental approaches (1.1, 1.2, 1.3) used to explore the question

2. **Background and Significance** (2 pages)
 - Use **bolded** subheadings to divide the information
 - Explain what is known and NOT known indicating where your studies will address these knowledge deficiencies.

3. Preliminary data and significance (1 page)

- Usually this is your own data but for this exercise data from others can be included

4. Research Design and Methods

- **Specific Aim 1** (and for subsequent specific aims): Repeat statement of aim
 - **Rationale:** Provide a succinct one paragraph summary of the rationale
 - **Protocols: for each individual approach (1.1, etc.)**
 - (1.1) Subheading of experiment
 - **Design:** explain experiment
 - **Control Experiments**
 - **Data Analysis:** exactly what you will measure, number of cells, experiments, statistical analysis
 - **Anticipated Results/Limitations**
 - (1.2, 1.3)
 - **Methods**

5. Literature Cited (try to keep it under 50, if you can)

Note: When discussing the literature in the background and significance section or explaining an experiment under research design and methods, a small diagram is sometimes very helpful:

- To delineate cascades
- Explain complicated experimental approaches
- List constructs or reagents that might be compared

ORAL EXAM/DEFENSE:

The Examination Committee will separately evaluate and grade your ability to orally defend the written proposal. This defense will also be assigned a grade of High Pass, Pass, Conditional Pass, or Fail. Questions will focus on, but may not be limited to, the written document and the oral presentation. Your mentor cannot serve as an Examination Committee member. Your mentor may be present at the defense to observe but must refrain from speaking.

ADVANCEMENT TO CANDIDACY:

The Graduate Committee will determine Advancement to Candidacy within **two weeks** of the *Oral Defense*. In making their decision, the Committee will take into consideration your **overall performance in course work, laboratory rotations, and Journal Club presentations**. The Committee will also consider the **evaluation(s) provided by the Examination Committee** on your written proposal and oral defense, as well as the **letter of support from your mentor**.

DEADLINES:

- **December 1st (Fall of your second year) – Submit the Candidacy Examination Form** to Carrie Walker. The Graduate Committee will review your form and approve (or suggest changes to) your proposal topic and Examination Committee members.

- **Set the *Oral Defense date!*** As soon as you receive notification that the Examination Committee and proposal topic have been approved, set a date for the oral defense of your proposal. You must coordinate this date with your Examination Committee members and, once confirmed, notify Carrie of the date, time, and location for your oral exam. Your examination can take place as early in the semester as you would like, **however it must be completed no later than April 15th in the Spring of your second year.** You should allow six weeks for the NIH style review and resubmission process as described above (see *Written Proposal*).

- **Six weeks before the *Oral Defense date.*** Submit final *Written Proposal* to your Exam Committee by email. Include Carrie as a cc on the email; a copy of your proposal will be included in your student file.

- **Two weeks later:** The Exam Chair will provide you with formal feedback in the form of standard, NIH proposal reviewer comments. The comments will address the following aspects of the proposal: (1) Overall Impact, (2) Significance, and (3) Research Strategy. The Examination Committee Chair should include a cc of this feedback to Carrie for your student file. If you notice this was not done, please forward the email to Carrie.

- **One week before the *Oral Defense Date:*** Submit your revised *Written Proposal* to the Examination Committee. This will include both (1) a one-page “Introduction” detailing changes made to the revised proposal, and (2) the revised proposal. As with the original proposal, include Carrie as a cc on the email so a copy of your final proposal will be included in your student file.

- **One week before the *Oral Defense date:*** Make sure **your mentor** gives a **letter in support of your Advancement to Candidacy** to Carrie. This letter should detail why your mentor believes you will succeed in the Ph.D. program and why you should Advance to Candidacy.