

Protocol 1027 Ph.D. Thesis

Protocol Number: 1027

Effective Date: 6/30/17

**Revised Dates: 10/5/17; 6/13/18; 11/01/19; 08/05/2020; 10/05/2020; 7/19/2021;
11/10/2022; 02/12/2025; 07/30/2025**

Protocol

The completion of a body of research that addresses a significant biological problem and is likely to result in at least one publication in a peer-reviewed journal is required for the successful completion of the Ph.D. research program. The Supervisory Committee will ultimately assess whether this criteria is met during the Thesis Defense. In general, the publication forms the main body of a thesis. A detailed literature review precedes the thesis and a discussion of the possible next steps in the research follows the thesis. A detailed reference section is added at the end of the thesis with citations throughout the document.

To defend the thesis, a student presents an open seminar and subsequently is examined by the Supervisory Committee. Satisfactory defense of the thesis and fulfillment of all requirements of GSSIMR results in the granting of the Ph.D. degree in Biology.

Preparing for the Thesis Defense:

Prior to scheduling a Thesis Defense, the student meets with members of their Supervisory Committee (at least the GSSIMR faculty members) with the intent of proposing the final timeline towards the Thesis Defense. This meeting is scheduled as a regular Supervisory Committee meeting with additional information about the predoctoral researcher's intent written in the summary provided to the committee. If the Supervisory Committee agrees to the proposed content of and a timeline for the Thesis Defense, the student schedules it as instructed below.

To schedule the Thesis Defense, the student works with GSSIMR's Administrative Coordinator to find a date and time when all Supervisory Committee members are able to attend. Four hours should be allowed for the Thesis Defense: one hour for the open seminar followed by three hours for examination by the Supervisory Committee. GSSIMR's Administrative Coordinator will arrange appropriate conference room(s) and catering for the meeting. GSSIMR will arrange travel for the outside committee member and coordinate preparations with the lab's administrative assistant. Outside committee members may be present via virtual formats for the Thesis Defense.

The student sends the thesis to the Supervisory Committee and the Associate Dean for Administration at least two weeks prior to the Thesis Defense so the committee has adequate time to read and review the document. If the Supervisory Committee needs more than two weeks to read the proposal and summary, they need to let the student know well in advance.

Thesis Document:

The thesis is written to document the full range of research performed by the predoctoral researcher. It should be written in Times New Roman or Calibri 12 point and contain the following sections:

- 1) **Title Page:** Title of Thesis, Name of Predoctoral Researcher, “A Thesis Submitted in Partial Fulfillment of the Requirements for the Ph.D. in Biology at The Graduate School of the Stowers Institute for Medical Research,” Date
- 2) **Statement of Copyright** (centered on a page by itself):
© Copyright by (Name), Year
All Rights Reserved
- 3) **Acknowledgements:** List committee members’ names in this section instead of including a signature page.
- 4) **Table of Contents:** To help with the process of writing and editing, set up the thesis document in Word to automatically create and update the Table of Contents.
- 5) **Introduction:** The Introduction is a comprehensive literature review that sets up the scientific problem. The end of this section should include a separate page stating the **Specific Aims** of the proposal.
- 6) **Materials and Methods**
- 7) **Results:** Scientific papers should comprise the majority of the content, and unpublished results should be included here or in the appendix chapter. Each publication can be its own chapter. Data generated through collaborations or by others should be clearly acknowledged throughout the thesis or with a summary explanation after each results section.
Sample statement:
“Figure Xx was analyzed by X. All zebrafish experiments were performed by X and all mouse experiments were performed by me.”
- 8) **Discussion and Conclusions**
- 9) **Future Directions**
- 10) **Appendix:** This optional section can include supplementary information such as methods, data and results that are not directly relevant to the body of the thesis.
- 11) **AI Usage Disclosure:** Any use of generative AI for the writing or the work of this thesis must be disclosed with a statement clarifying the usage of AI. Students must include a statement describing how generative AI was used, specifying the tools involved and their

role in the work. Below is a sample disclosure statement that can be modified to fit different situations, or you can provide your own statement.

"I acknowledge the use of generative AI tools to assist with data analysis, generation of tables, and/or editing, rewriting, rephrasing, and/or paraphrasing parts of my work to ensure quality and the English used. Generative AI use was limited to enhancing the efficiency and presentation of my work. All intellectual contributions, interpretations, and conclusions are entirely my own, and I take full responsibility for the content, accuracy, and originality of my presentation, assignment, and/or experiment."

12) References: References should be formatted in a consistent manner throughout the thesis. The format is at the discretion of the student and their thesis advisor.

All Figures should be printed on separate pages, with no text on the other side of the paper.

After the Thesis Defense and after any corrections and edits requested by the Supervisory Committee, the student provides a copy of the final thesis in a Word document to their thesis advisor. The thesis advisor then provides the Word document to the Associate Dean for Administration and copies the predoctoral researcher. The Graduate School office binds the thesis and provides copies as needed.

Thesis Defense:

The Thesis Defense is scheduled for four hours: one hour for the open seminar followed by three hours for examination by the Supervisory Committee.

Open Seminar

The open seminar consists of a 45- to 50-minute formal seminar, followed by a 10- to 15- minute question and answer session. The presentation should be formatted for a general scientific audience, with introductory slides, data slides, conclusions, future directions, and acknowledgments. The seminar should be revised and practiced with the thesis advisor and other lab members, and slides should be corrected for inconsistencies, mis- or no labeling, typos, and multimedia malfunctions prior to the seminar.

Thesis Examination

Following the open seminar, the Supervisory Committee continues the examination with the predoctoral researcher. The student takes to this meeting a blank copy of the Thesis Defense Report document. An electronic version of the Thesis Defense Report is also available to the Supervisory Committee, if they prefer to type comments. At the beginning of the meeting, one committee member (not the advisor) is appointed as chair of the committee to complete the Thesis Defense Report.

The Supervisory Committee asks questions pertaining to the thesis and the encompassing scientific field, whether methodological or conceptual. Therefore, it is vital that the Supervisory Committee has adequate time to read the thesis document (see above).

Immediately following the examination, the Supervisory Committee meets without the student present. The thesis advisor may stay for the meeting, but recuses her/himself for the final deliberations on the grade. The Supervisory Committee discusses whether the thesis and the defense meet the criteria of “the completion of a body of research that addresses a significant biological problem.” They discuss and record on the Thesis Defense Report comments, suggestions, and a grade (see below). This feedback and the grade will be discussed with the student immediately following a Supervisory Committee consensus. In addition, the Supervisory Committee completes the Thesis Defense Core Competencies Evaluation form.

Thesis Defense Grade:

One of three grades is assigned: pass, conditional pass, or fail.

- A passing grade indicates that the student has met all thesis requirements to receive a Ph.D.
- A conditional pass grade indicates a specified number of adjustments that need to be made to the thesis document. These adjustments may be relatively minor (such as proper reference formatting) to rewriting poorly written sections of the thesis. Changes need to be made by the student and sent to the Associate Dean for Administration within 7 days of the defense. Once these specific changes are made, the thesis document, or sections in question, are redistributed to the Supervisory Committee by the Associate Dean for Administration. All Supervisory Committee members respond to the Associate Dean for Administration within 14 days of receiving the revisions. A written approval indicates that the student has addressed their comments and thus meets all thesis requirements to receive a Ph.D. If more revisions are necessary, this process will continue in 3-day intervals between the committee member who requests more changes, the student and the Associate Dean for Administration until the committee member(s) is satisfied.
- A failing grade indicates that the student has not met the stated criteria for a completed thesis. In issuing this grade, the Supervisory Committee must specify the areas that are lacking. This may include, but is not limited to, insufficient data to produce a “body of research that addresses a significant biological problem” to a poorly prepared seminar to unsatisfactory defense of the thesis. The Thesis Defense Report indicates the specific areas that need improvement, and the committee informs the student at the end of her/his defense. Following this outcome, the chair of the Supervisory Committee will meet with the Dean to discuss the reasons for the failing grade. This meeting occurs within 7 days of the failed thesis defense. If the chair of the Supervisory Committee is not available, any Supervisory Committee member other than the thesis advisor may meet with the Dean. If the Dean is not available, the Assistant Dean for Academic Affairs may act in his/her place. Subsequently, the student and the thesis advisor meet with the Dean to discuss the failing grade. The second Thesis Defense must be scheduled within 6-8 months after the first Thesis Defense. If more time is needed, this may be grounds for dismissal from the program.

Thesis Defense Report:

The first page of the Thesis Defense Report is completed and signed by the committee members during the thesis defense, and the chair sends that page in interoffice mail to the Associate Dean

for Administration. Within a week of the Thesis Defense, the chair completes the remainder of the Thesis Defense Report (which includes the comments, grade, and Thesis Defense Core Competencies Evaluation form), emails it to the Associate Dean for Administration, and copies all committee members.

Program Completion:

Once a student has completed all the degree requirements, the GSSIMR Board of Directors must confer the degree. Degree conferral occurs at a routine board meeting no longer than six months after degree requirements are met.