

Ph.D. Proposal Defense and Dissertation Defense Summaries – Student Instructions

Effective: 9 January 2012

Updated: 9 July 2018

1. Proposal Defense and Dissertation Defense Summary Requirements

- a. The proposal defense and dissertation defense summaries are required effective Spring 2012. All Ph.D. candidates will be required to submit the following documents with their research manuscripts according to the timeline in section 2.
- b. Refer to the following appendices for requirements and samples:
 - 1.1 Proposal Defense Summary Requirements
 - 1.2 Proposal Defense Summary Sample
 - 1.3 Dissertation Defense Summary Requirements
 - 1.4 Dissertation Defense Summary Sample
 - 1.5 Dissertation Defense – Research Deliverables Sample

2. Ph.D. Timeline

a. Milestone 1: Ph.D. Qualifying Exam

- i. All PhD students must take exam during or prior to their 3rd semester in the Ph.D. program.
- ii. [Ph.D. Qualifying Exam Instructions](#)

b. Milestone 2: Proposal Defense and Summary

- i. The proposal defense is to be completed after the passing of the Ph.D. Qualifying Exam.
- ii. The proposal defense is comprised of 3 parts: a written proposal, a public oral presentation and a closed oral defense of the proposal.
- iii. The student is required to submit a written research proposal and proposal summary to the supervisory committee at least 2 weeks prior to the proposal defense.
 1. Written Research Proposal requirements:
 - a. Must follow standard format such as those suggested by NSF (see [NSF Proposal Preparation Instructions](#)), DOE, NIH, or other funding agencies as appropriate.
 - b. Include a budget, two-page bio-sketch, and a one-page summary.
 - c. Project description must be 15 pages or less and include a time table.
 2. The Proposal Summary requirements (see appendices 1.1 – 1.2):
 - a. Provide a succinct, one-page description of what your Ph.D. research will accomplish.
 - b. Your supervisory committee will have a clear understanding of your overall plan and approach after reading this one-page summary.
 - c. To be submitted with the written research proposal to the supervisory committee 2 weeks prior to the proposal defense. If the committee suggests changes, a revised and approved version must be submitted to the Graduate Advising Office no later than 2 weeks after the proposal defense date.

c. Milestone 3: Dissertation Defense and Summary

- i. There must be a minimum of 8 months between the proposal defense and the dissertation defense.
- ii. The student is required to submit a dissertation manuscript and dissertation summary to the supervisory committee 2 weeks prior to the dissertation defense.
 1. Manuscript requirements:
 - a. See the [Thesis Office Requirements](#)
 2. The Dissertation Defense Summary requirements (see appendices 1.3 – 1.5):
 - a. Provide a succinct, one-page description of what you have accomplished through your research. A second page should outline deliverables achieved.

- b. Your supervisory committee will have a clear understanding of the contributions you have made.
- c. To be submitted with the manuscript to the supervisory committee 2 weeks prior to the dissertation defense.
- iii. The student must submit at least one paper (manuscript) to a committee-approved, peer-reviewed journal by the time of the defense.

d. Milestone 4: Manuscript Corrections

- i. After completion of the dissertation defense, the student must complete any content recommendations by the supervisory committee.
- ii. Once content is in order, the student must collect original signatures of all committee members on two copies of the [Reading Approval Sheets](#). Students then submit approval sheet and one hard copy of the manuscript to the Department Chair for approval.
- iii. Student must work with Thesis Editor to correct format of the manuscript.
- iv. Dissertation must be approved by Thesis Editor within one semester of the defense at most.

Appendix 1.1: Proposal Defense Summary Requirements

Title

Student Name

The purpose of this document is to provide a succinct, one-page description of what your Ph.D. research will accomplish. Your committee, regardless of their background, should have a clear understanding of your overall plan and approach after reading this page. It is similar to summaries written for proposals submitted to NSF (Project Summary), NIH (Specific Aims), and other agencies. Use a standard font type and size (not less than 11 pt), with margins of no less than 0.5 inches, and include no figures. In the first paragraph, provide a descriptive, succinct statement of the problem or application your research will address. This should include the background material necessary to frame your problem in a general context so that readers who are not experts in the field can see how this work will be a significant contribution. Once the problem has been defined, state your overall hypothesis or objective and give a brief overview of your approach to addressing the problem. This approach should take the form of approximately three sub-objectives or specific aims, each of which you might anticipate becoming a published manuscript as the work progresses. You will provide more detailed descriptions of each of these aims in the following paragraphs. It is recommended that your summary utilize the format shown in this document and sample 1.2.

Objective 1: Statement of first objective. *If appropriate, statement of hypothesis / research question that the objective will test / answer.* In this paragraph, provide a brief description of your first sub-objective or specific aim. You may need to provide a little more background for each objective, including any progress you've been able to make to-date, but the focus should be on methodology and the logic your approach will apply to address the question. Clearly describe the approach you plan to follow. It is likely that facets of the approach will change as you continue your work, but the current plan should be logical and complete.

Objective 2: Statement of second objective. *Hypothesis / question.* Description of approach for Objective 2.

Objective 3: Statement of third objective. *Hypothesis / question.* Description of approach for Objective 3.

...

In a final paragraph, summarize the "intellectual merit" and "broader impacts" (see NSF definitions) of your proposed work. It may also be useful to briefly describe how each of the objectives or aims will work together to address the stated problem.

Following the proposal presentation and discussion, it may be necessary to adjust the Proposal Summary to reflect expectations agreed upon by the student and committee members. The final version should be signed by each member of the committee and filed with the Graduate Advisor.

Advisor
(dated)

Member 2

Member 3

Member 4

Member 5



Appendix 1.2: Proposal Defense Summary Sample
(Actual document should use a full page to be complete)

Proposal Defense Summary: A New Approach for Head Protection in Sports

Jane A. Student

Traumatic brain injury (TBI) is a devastating health problem worldwide. Many of these injuries occur during sporting events such as American football. In many cases, helmets are effective at reducing impact severity by limiting skull deformation and reducing peak acceleration (by lengthening impact duration). Unfortunately, most impacts also include angular acceleration components that, even with helmet use, exceed the tolerance level of underlying brain tissue. Recent work in our laboratory has demonstrated that interactions between magnetic fields may be used to limit motion between two bodies, with specific capability for limiting impact forces. The overall objective of this project is to develop and implement a new head protection system for American football that relies on this magnetic field technology. This objective will be accomplished through the three specific aims outlined below.

Aim 1: Develop a helmet liner that effectively reduces impact forces between two helmets. *We hypothesize that the advanced material we've developed will reduce helmet impact forces by 50% compared to helmet impacts without the liner. Work in our lab has shown that ...* In order to further this work, we will alter the computational model to predict the outcome of experiments to be conducted using a drop tower. Two helmets will ...

Aim 2: ...

Aim 3: ...

Accomplishment of this work will advance understanding of system control through magnetic field interactions ... This work will vastly improve the safety of American football, particularly with respect to head and neck injuries. Using this new technology, ...

Advisor
(dated)

Member

Member

Member

Member

Appendix 1.3: Dissertation Defense Summary Requirements

The purpose of this document is to provide a succinct, one-page description of what you have accomplished through your research. From this document, your committee should have a clear understanding of the contributions you have made. As in the Proposal Summary, provide a clear statement of the problem you will address, along with your overall objective or hypothesis. It may be appropriate to use the exact text of the Proposal Summary; it should, at least, look similar in format. This introductory paragraph should be followed by descriptions of what was accomplished with respect to each of the specific objectives. You should also note the status of any manuscripts or publications associated with each. The final paragraph should, as in the Proposal Summary, describe the contributions and intellectual merit of your overall work. The overall document will likely be very similar to what was included in the Proposal Summary, except that the focus is on what you have accomplished rather than on what you plan to accomplish.

Along with the summary, a separate page should be attached specifically listing research deliverables resulting from your work, including publications, abstracts, presentations, patents, etc. Include any pending deliverables, along with their status.

SAMPLE

Appendix 1.4: Dissertation Defense Summary Sample

(Actual document should use a full page to be complete)

Dissertation Defense Summary: A New Approach for Head Protection in Sports

Jane A. Student

Traumatic brain injury (TBI) is a devastating health problem worldwide. Many of these injuries occur during sporting events such as American football. In many cases, helmets are effective at reducing impact severity by limiting skull deformation and reducing peak acceleration (by lengthening impact duration). Unfortunately, most impacts also include angular acceleration components that, even with helmet use, exceed the tolerance level of underlying brain tissue. Recent work in our laboratory has demonstrated that interactions between magnetic fields may be used to limit motion between two bodies, with specific capability for limiting impact forces. The overall objective of this project is to develop and implement a new head protection system for American football that relies on this magnetic field technology. This objective will be accomplished through the three specific aims outlined below.

Aim 1: Develop a helmet liner that effectively reduces impact forces between two helmets. *We hypothesize that the advanced material we've developed will reduce helmet impact forces by 50% compared to helmet impacts without the liner.* Work in our lab has shown that ... In order to further this work, we altered the computational model to predict the outcome of experiments conducted using a drop tower. Results showed ... This work was published in the *Journal of Amazing Magnetic Stuff* in January of 2012.

Aim 2: ...

Aim 3: ...

This work has developed a more sophisticated understanding of the complex interactions between magnetic fields and materials. The improved computational model and developed helmet liner ... Findings from this work are already being applied to improve the safety of American football, particularly with respect to head and neck injuries. Using this new technology, ...

Journal Publications

Student, J. A., Colleague, A., Advisor, T., 2012. A new helmet liner for improved safety in American football. *Journal of Amazing Magnetic Stuff* 10(4): 56-72.

Student, J. A., ... (accepted for publication but not yet assigned to an issue)

Student, J. A., ... (under review)

Conference Papers

Student, J. A., Advisor, T., 2011. Modeling interactions between magnetic fields. Presented at the 7th Annual Magnetic Devices Conference, San Diego, CA.

*Abstracts**Talks*